—THE—

Therapeutic Gazette.

WHOLE SERIES, VOL. XX. DETROIT, MICH., JULY 15, 1896. THIRD SERIES, VOL. XII. No. 7.

CONTENTS.

Original Communications.

Three Cases of Plastic Nasal Surgery—for Saddle-Shaped Nose, Removal of Entire Nose, and Arched Roman Nose. By W. W. Keen, M.D. ... 433
Europhen. By Edmund Saalfeld, M.D. ... 436
A Case of Rupture of the Liver, and its Treatment. By Orville Howitz, M.D. ... 439
The Use of Turck's Gyromele and Other Methods in the Diagnosis and Treatment of Diseases of the Stomach. By Edgar A. Planck, M.D. ... 440
A Plea for the Early Excision of Labial Epithelioma in General Practice. By James J. Walsh, A.M., M.D. ... 443
A Modified Method of Administering Oxygen and Ether. By H. A. Hare, M.D. ... 445

Leading Articles.

The Value of Aconitine in Facial Neuralgia ... 448
The Prophylactic Influence of Quinine ... 449
The Relative Influence of Potassium and Sodium Salts on the System ... 449
Difficulties Encountered in Reduction of Dislocation of the Hip ... 451

Reports on Therapeutic Progress.

The Treatment of Vulvar and Anal Pruritus ... 447
Primary Epithelioma of the Ureter ... 474
On Mechanical Support of the Lung in Phthisis ... 455
The Treatment of Rheumatoid Arthritis ... 456
Preliminary Note on the Active Substance in the Thyroid ... 456
Ichthyol as a Therapeutic Agent in the Treatment of Diseases of the Uterine Adnexa ... 457
Treatment of Aural Polypi ... 459
Eruptions Simulating Scarlatina ... 461
On Cholagogues ... 462
The Mechanical Treatment of Tabes ... 464
Some Experiments on the Action of Guaiac ... 464
The Combination of Certain Antipyretics and Analgesics in Internal Medicine and Ophthalmology ... 465
Pharmacology of the Thyroid Gland ... 465
The Serum Treatment of Diphtheria ... 466
Curettage of the Uterus ... 467
The Treatment of Alopecia ... 469
The Action of Thyroid Gland on Growth and Obesity ... 469
Alcohol and Digestion ... 470
Cocaine and Cocainism ... 472
Thyroid Feeding in Goitre ... 473
The Removal of Cerumen from the External Auditory Canal ... 474
Traumatisms Coincident with Labor; Their Prevention and Repair ... 474
Pental: 150 Administrations, with One Death ... 476
The Treatment of Pulmonary Congestion or Pulmonary Apoplexy ... 478
Interesting Cases of Perineal Section, with Remarks ... 479
Treatment of Acne ... 481
Ventro-Fixation of the Uterus and Subsequent Pregnancy and Labor ... 481
The Treatment of Sciatica by Compression ... 481
The Lines of Advance in Abdominal Surgery ... 481
The Ultimate Results of Vaginal Hysterectomy for Cancer Originating in the Cervix Uteri ... 482
A Case of Cervical Rib, with Operation ... 483
Is Surgery a Cure for Cancer? ... 483
The Disadvantages of Non-Absorbable Sutures in Operations for the Radical Cure of Hernia ... 484
A Method for the Implantation of the Ureter into the Rectum ... 485
Laparotomy for Intestinal Perforation Occurring in the Course of Typhoid Fever ... 485
Thiosinamine ... 486
A Dressing of Charcoal Made from Rice Straw ... 488
Surgical Treatment of Carbuncle ... 488
Surgical Treatment of Disease of the Liver ... 489
Syphilitic Infection ... 490
Sutures of Abdominal Wound in Ovariotomy ... 491
A Case of Axial Rotation of the Testis ... 491
Thirty-five Consecutive Cases of Strangulated Hernia; One Death ... 492
Observations Upon Acquired Hydronephrosis ... 492
Ten Cases of Cancer of the Uterus Operated Upon by a More Radical Method of Hysterectomy ... 494
Bartholinitis ... 497
Prevention of Gonorrhea ... 497

Reviews ... 498

Correspondence.

London Letter ... 499
Paris Letter ... 503
Local Use of Dobell's Solution in Herpes Zoster ... 504

Original Communications.

*THREE CASES OF PLASTIC NASAL SURGERY—FOR SADDLE-SHAPED NOSE, REMOVAL OF ENTIRE NOSE, AND ARCHED ROMAN NOSE.**

BY W. W. KEEN, M.D.,

Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia.

CASE I.—SADDLE-SHAPED NOSE REMEDIED BY THE PERMANENT INSERTION OF A SILVER GILT PLATE.

On April 9, 1895, A. McG., a woman of twenty-five, was admitted to the Jefferson Medical College Hospital, for treatment of a deformed nose. Eighteen years previously she had fallen and fractured her nose (Fig. 1). The bridge of the nose was almost entirely obliterated, being scarcely more than an eighth of an inch above the level of the cheek, thus tipping her nose markedly upward and also making her mouth very oblique. I was consulted as to the possibility of remedying the deformity, and Dr. Walter J. Freeman kindly examined the nose and found that there was no impairment of either breathing or smell. I decided not to interfere in any way with the bones, but to carry out the following plan: Dr. W. J. Hall, a skillful dentist, who has paid special attention to the cure of such deformities, first took a cast of the nose, and upon this built up a wax

*Read before the Philadelphia County Medical Society, February 26, 1896.

nose which was satisfactory to the patient as well as to me. From this as a model he constructed an artificial bridge, consisting of two plates of silver soldered together; the posterior plate corresponding to the shape of the bones, the anterior plate (somewhat smaller —Fig. 2) corresponding to the desired outline of the remodeled nose; the space between the two plates was left vacant, but was entirely closed by soldering them together. The picture gives a front view of the plate. This made the piece to be inserted much lighter than it otherwise would have been. All around the margin a row of small holes was drilled, which, it had occurred to me, would fix the plate firmly in place by granulation tissue pushing through the apertures and being probably later transformed into fibrous tissue. The plate was then polished and heavily gold-plated.

On April 19, 1895, a transverse incision was made just above the alæ of the nose, and the superficial tissues loosened as far as the lower border of the frontal bone on each side, and slightly toward the tip, below the transverse incision. My object in loosening the soft parts towards the tip of the nose was to prevent the edge of the plate from protruding. The gilded plate was then inserted, and the opening closed by Halsted's subcuticular suture. The suture was removed six days after its insertion. The highest temperature was 99.4°. A bleb formed over the bridge of the nose, but soon healed.

The result is shown in the photograph (Fig. 3). The gold plate has never caused the slightest inconvenience, and on seizing the nose by the thumb and finger the plate seems to be very firmly fixed in place.

Up to the night before the operation, I had believed that my idea was entirely original, but on that evening Dr. Taylor pointed out to me a paper in the London *Lancet* for February 17, 1894, by Dr. S. K. Ellison, of Adelaide, South Australia, reporting the insertion of a nasal plate which, from the description, I am led to believe was practically identical with my own. His operation was done in 1886, and after seven years the plate was still retained with entire comfort.

In a similar case I should be inclined to make an incision on one side of the nose sufficiently large to allow of insertion of the plate, with a very small incision upon the other side for the purpose of loosening the tissues from the bony and cartilaginous nose. The photograph shows the worse side of my patient's nose, where the scar is much more evident than upon the other side.

Since this operation was done, I have seen the notes of several other somewhat similar cases. In the *Medical Record* of April 27, 1895, Dr. Weir reports the treatment of a case with a celluloid plate. He first attempted to use gutta percha, which proved unsatisfactory by reason of softening, and sometimes also was not tolerated. Later he hit upon celluloid, which had been used for closing apertures in the skull by Fraenkel, and this seems to have been very satisfactory. Attempts at inserting such plates through the nostril, which I also had considered, do not seem, as a rule, to be tolerated so well, as in two cases Weir was compelled to remove the celluloid plate, which lacked sufficient support from below. In two of his cases, through an incision in the cartilage within the nose, he chiseled out the bone and also removed a portion of the cartilage, thus restoring the contour. In another case he made a V-shaped incision inside of the mouth to bring down the lip. It will be noticed that in my own case the effect of raising the skin over the bridge of the nose has been to depress the tip of the nose and the upper lip, making what was a very oblique mouth a horizontal one and thus improving the appearance very much.

In the *Annals of Surgery* for June, 1895, Stimson also reports the case of a man, of twenty-five, who had a saddle-shaped nose from fracture. A piece of aluminum five-eighths of an inch long was inserted between the skin and the bones through a small incision in the alæ. As the outline of the nose was not satisfactory, a year later the wound was reopened, the piece of aluminum removed, and in its stead one of gutta percha about half as large again was inserted. The gutta percha in this case seems to have done very well.

In the *New York Medical Journal* of September 28, 1895, Foote has reported a case operated on by Bull, of New York, by means of a platinum bridge. In this case the upper lip and the nose were separated from the superior maxillary so as to expose the nasal bones. Holes were drilled into the left nasal bone and both superior maxillæ just outside the anterior nares. The platinum bridge had three supports, which were pressed into these holes. A steel pin was thrust through the nose from side to side, holding it securely in position. A considerable amount of swelling and headache followed the operation, but dis-

appeared within a week. The steel pin was removed on the seventh day, and the patient left the hospital in seventeen days. The improvement was very great, but the outline of the nose does not seem to me to be quite as satisfactory as in my own case. There is apparently, however, the same improvement in the position of the mouth from the lowering of the tip of the nose. It seems to me that the multiple holes in the side of the plate are quite sufficient to hold it in place, if I may judge by the result of my single case, instead of the more severe operation resorted to by Bull.

Schimmelbusch (*Archiv für Klinische Chirurgie*, 1895, p. 739) condemns the use of all foreign bodies, including gold-plate bridges, ivory, etc., but the cases which I have cited in this paper show that he is quite wrong in his conclusions against them. In fact, I am by no means sure but that in the second case I might have been able to construct a new nose by a forehead flap, giving it shape by means of such a gilt silver support.

CASE II.—REMOVAL OF THE ENTIRE NOSE FOR SARCOMA, WITH AN ARTIFICIAL NOSE FIRST OF ALUMINUM AND LATER OF SILVER.

W. J. L., aged fifty, was kindly sent to me at the Jefferson Medical College Hospital, December 3, 1894, by Dr. T. A. Enos, of Townsend, Del. Personal and family history negative. About four years previous to coming under my care the patient had noticed a small wart on the left side of his nose. Two years later he tried various quack cures for it, when it began to grow, and when I saw him it was a circular tumor, 1½ inches in diameter, extending from a little to the right of the bridge of the nose slightly on the left cheek. The skin of the right side of the nose was infiltrated, and also that of the left cheek to some distance from the growth. (See Fig. 4.)

On December 5, 1894, by knife, bone-forceps, and chisel, the entire nose, excepting a little bit of each ala and the septum, was removed, together with a small portion of the adjacent left cheek, the skin of which was involved. The incision just grazed the inner angle of the left eye. The left antrum was opened slightly. The growth was found to have penetrated deeply into the nostril. The hemorrhage was moderately severe, but easily checked by the Paquelin cautery, hot water, and pressure. The entire wound was then packed with iodoform gauze, and dressed as usual. The wound was sufficiently healed for him to go home on the 1st of January, 1895. (Fig. 5.)

Fig. 6 shows the result when the parts were completely healed, the large ragged opening shown in Fig. 5 having contracted very satisfactorily.

The question arose then as to a new nose, and I decided not to do a plastic operation, but to have an artificial nose applied, because, *first*, not only was the nose removed, but a considerable part of the left cheek also: this would require so large a flap as to take a large part of the skin of the forehead and leave a very unsightly scar. *Secondly*, so broad a flap would not retain any prominence like a normal nose, but would flatten out as a mere flap of skin. And *thirdly*, I feared that so large a flap would probably undergo more or less gangrene.

Accordingly, I again invoked the kindly services of Dr. Hall, who constructed an artificial nose of aluminum, so as to be very light. It was constructed with a flange below which hooked behind the bone, and at the upper end with a short lever actuated by a spring. The lever could be pulled down by a wire which was scarcely visible where it protruded through the artificial nostril. When the lever was pulled down by this wire, it could be pushed behind the projecting bone at the top of the large opening, and on releasing the lever the spring pushed it up just behind the bone and so held the nose in place without spectacles or other artificial means.

The lightness of the material from which it was constructed made the pressure both at the upper and lower borders so slight as to give no trouble. A very unexpected difficulty, however, presented itself after the lapse of between two and three months. The nose came entirely to pieces by the destructive action of the tears on the soft solder—hard solder cannot be used with aluminum. The metallic wire which pulled down the lever was made of equal parts of aluminum and tin, and this also was dissolved away. Dr. Hall, accordingly, made a second nose of coin silver, which has answered very much better.

Fig. 7 shows the new nose in position. It was painted to resemble a flesh color as near as possible, and improved the patient's appearance very much, the large hole left by the healing of the parts being most unsightly. The disease so far has shown no tendency to recur.

CASE III.—A MARKEDLY ARCHED ROMAN NOSE CONVERTED INTO A STRAIGHT GRECIAN NOSE.

E. H., aged thirty, entered the Jefferson Hospital March 26, 1896. Six years ago he sustained an injury to the nose which rendered a congenital prominence still more marked. The nose, as will be seen by the photograph, was markedly arched, though no more so than many noses whose owners are quite satisfied with them. He stated to me that its appearance interfered seriously oftentimes with his obtaining employment as a waiter, and that he wished it made into a straight or Grecian nose, though he did not express it in these words. I tried to dissuade him from operation, as his nose was a very respectable one, but he insisted very strongly upon it.

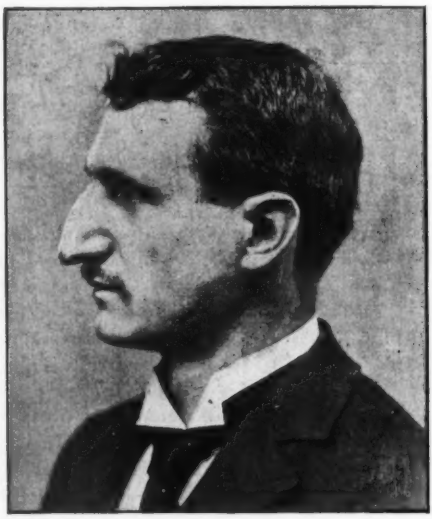


FIG. 8.—Arched nose before operation.

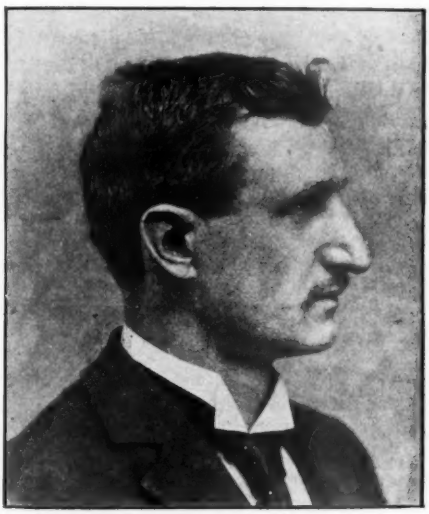


FIG. 9.—Arched nose after operation.

Operation March 26, 1896. A linear incision was made to the bone from near the tip to the base of the nose, and the soft parts dissected loose on each side. With a drill I then penetrated the bones of the nose about the middle of their length. This drill did not go through the soft parts, which were first retracted and then held out of my way by the drill which I left in place for the time being. I then chiseled out a piece of this shape, (), about 22 millimeters long and at its widest part 5 millimeters wide. This made an opening into the interior of the nose. I then attempted with a pair of strong forceps to crush the sides of the nose together, but found they were still very resistent. One or two blows of a hammer on a chisel just at the juncture of the nose with the cheek fractured the two sides of the nose. I was then able to bring them together very well. I then withdrew the drill and by means of a straight needle passed a stout thread of catgut through and tied it tightly. This held the bones in place. A needle threaded with another thread of catgut was passed through the cartilage, which had been partially removed, and the tightening of this ligature brought the whole of it together very nicely. A little trimming of the surfaces was needed with the double rongeur forceps, and then I closed the incision in the skin with Halsted's subcuticular suture. The result was most satisfactory as regards shape, there being a good straight nose instead of the curved nose which the patient originally had.

He made a speedy recovery, without fever or suppuration, and was discharged six days after the operation entirely cured. Fig. 9 shows the result. The scar is scarcely visible.

EUROPHEN.

BY EDMUND SAALFELD, M.D.,
Berlin, Germany.

Since the introduction of iodoform into therapeutics by Mosetig-Moorhof, attempts have been repeatedly made to substitute for this efficient yet dangerous remedy other

substances which, while possessed of equal practical utility, would be devoid of the disagreeable properties of iodoform. During the past two and one-half years I have prosecuted clinical experiments with one of these products, namely europhen, which was introduced into therapeutics by Eichhoff. Gathering from a review of the American literature at my disposal that the indications for the use of this iodoform-substitute are not as yet sufficiently known in America, I have thought the results of my experience with europhen would prove interesting.

Europhen, also known as isobutylorthocre soliodide, appears in the form of a fine yellow powder having a faint saffron-like odor, and contains 28.1 per cent. of iodine. In the dry state it is permanent, while on contact with water, and especially with alkaline fluids, it liberates small quantities of iodine even at ordinary temperatures. Experiments on animals have demonstrated its complete innocuousness, and, as far as I am able to learn from the literature, a case of poisoning from europhen has not as yet been reported. As a result of my experiments it appears that europhen can be regarded as at present the best substitute for iodoform, combining essentially its main virtues without possessing its unpleasant features; for europhen is neither toxic nor odoriferous, and its application to the inflamed skin causes no irritation—a fact which, in my opinion, has not hitherto been sufficiently valued. So far as I am able to learn, Rosenthal is the only one who has commented upon its freedom from irritating effect.

I have employed europhen in simple dermatoses and venereal affections, and desire first of all to report my results in the former class of cases.

In the treatment of most varicose ulcers of the leg, with eczema of the surrounding parts, the latter condition is not infrequently irritated by iodoform, which, in spite of all precautions, is apt to be transferred from the ulcer to the eczematous places. This occasional very disagreeable irritation, which often necessitates the complete abandonment of iodoform, I have never observed during the employment of europhen; on the contrary, this drug exerts a favorable influence upon the eczematous parts. The europhen was dusted upon the ulcer in a thin layer, either in substance or in combination with finely powdered boric acid (either equal parts or in the proportion of one to two or four), while the moist surrounding parts were covered with a europhen dusting powder (one part to four of talcum). Under this treatment the pains from the ulcer usually subsided after a short time, and the burning and itching from the eczema soon ceased, so that, owing to the drying properties of europhen, the ulcers, as well as the skin eruptions, healed in a comparatively brief period.

The non-irritating and non-toxic character of europhen renders it of especial value in pediatric practice. Thus, a powder consisting of talcum with addition of five to ten per cent. of europhen and five per cent. of lanolinum anhydricum—

℞ Europhen, 5 to 10 Gm.;
Lanolini anhydric., 5 Gm.;
Talci venet., ad 100 Gm.

M. ft. pulv.

—has proved very serviceable in cases of intertrigo which had resisted treatment with other powders.

Several cases of pustulous eczema and folliculitis, under the use of a ten-per-cent. ointment of europhen and lanolin, healed in a comparatively short time. The advantage of this application manifested itself here the more distinctly since in pustulous eczema, as well as in many forms of folliculitis, cutaneous irritation is often occasioned by the employment of the more strongly acting ointments, while by the use of weaker remedies a cure results very slowly.

In several cases of pemphigus vulgaris and impetigo corporis (due to various causes), as well as in impetigo contagiosa, this combination proved of advantage.

Further, I employed europhen in the form of the powder in simple operative (incised) wounds, as for instance after extirpation of cutaneous tumors (here also in the form of ten-per-cent. europhen collodion), after excisions of chancres, and also after operations on buboes, and as a protective for places subjected to the galvano- or thermo-cautery. In these cases the favorable results obtained by me coincided completely with those of other authors.

The pronounced adhesive power of europhen proved of especial advantage after scarification of acne pustules and nævi. Here a very small quantity of the remedy applied on a piece of cotton sufficed to at once arrest the hemorrhage which occurs after these small operative procedures. The treatment of balanitis was materially facilitated by the use of a europhen dusting powder (one to four of talcum, or, better still, of boric acid).

I would refer now to venereal affections:

The healing virtues of europhen, employed either in substance or in combination with finely powdered boric acid, in cases of chancroids, which have been especially emphasized by dermatologists, were also strikingly manifested in the cases treated by me. I was the more able to determine this fact since the number of cases of chancroids in Berlin has lately undergone a considerable increase. The ulcers were dusted three times daily with the powder, if necessary after previous cleansing with liquor plumbi or a 1:2000 sublimate solution. The secretion from the sores soon diminished, the sores assumed a cleaner appearance, and cicatrization occurred in a comparatively short time, without the necessity of resorting to iodoform. A further advantage attributable to the more rapid healing under the europhen treatment was that the number of suppurating inguinal buboes was extremely small.

It was not only in typical chancroids, however, that this treatment proved favorable. Mixed ulcers and profusely secreting primary lesions, especially those which had been neglected, were subjected to the use of europhen, the remedy being employed in combination with equal parts of calomel and alcohol. This combination, which I recommended some time ago, has proved very efficient during continued use; the same applies to cases of typical and more scantily secreting chancres, in which europhen was applied during the day, being replaced by an American mercurial plaster at night.

In the form of the powder or a ten- to twenty-per-cent. ointment—

℞ Europhen, 3 to 6 Gm.;
Ol. olivarum, 3 Gm.;
Lanolini, ad 30 Gm.

M. ft. ung.

—europhen produced relief of the pains and burning, followed by healing, in cases of gummatous ulcers and moist papules, and in ecthyma syphiliticum (the ointment being employed in the latter).

On reviewing the results of my observations, it appears that the favorable results derived by me from europhen coincide with those cited in other reports. I would once more call especial attention to the non-irritating character of the remedy upon the inflamed skin, to its utility in pustulous eruptions and folliculitis, as well as to the europhen-lanolin ointment.

The above-mentioned results of my numerous experiments—which, as already mentioned, relate to the employment of europhen for two and one-half years—demonstrate, beyond a doubt, that in dermatology and syphilology, as well as in minor surgery, it is to be considered as a very useful remedy and, I might say, as the best substitute for iodoform at the present time. Europhen causes rapid cicatrization of varicose (and simple) ulcers of the leg; the resulting scar being smooth, firm, and elastic. In all cases of chancroids I observed, without exception, a favorable influence from its use. Kopp, Petersen, Eichhoff, Gaudin, Ullmann and others have called especial attention to the utility of the remedy in this class of cases, and Rosenthal writes as follows: "Up to the present time the favorable influence of europhen on chancroids has been completely confirmed in numerous cases in my practice, so that I need only repeat the words used by me in an article published two years ago: 'that europhen, next to iodoform, is the most useful—and, I might add, the most reliable—remedy in these affections, and that its freedom from odor should be properly estimated.'" To these statements of competent observers I would join my opinion, that, in view of its slight odor, which practically need not be considered, and its prompt effect, I most decidedly prefer europhen to iodoform in the treatment of chancroids; for here we see united, as regards effect, the *cito* and *tutum* with the *jucundum*. What I have said of chancroids is applicable to other venereal—that is, syphilitic—affections of the integument, such as primary lesions, gummatous ulcerations, and moist papules. Finally, I would recommend europhen, in substance or in ten-per-cent. combination with flexible collodion, for small incised wounds and other wounds of the skin, and as a dusting powder after cauterization, scarification, phimosis operations, excisions of chancres, and operations on buboes.

If it be considered how unpleasant are the after-effects of iodoform, how frequently it prevents patients, even some time after its application, from following their social duties, and how much it is dreaded, as a betrayer, by patients suffering from venereal diseases who are naturally inclined to suspicion; if further it be considered that physicians using iodoform are apt to be avoided; then the employment of europhen as an iodoform-substitute, devoid of the disagreeable properties of the former, cannot be too highly commended.

A CASE OF RUPTURE OF THE LIVER, AND ITS TREATMENT.

By Orville Howitz, M.D.,
Clinical Professor of Genito-Urinary Diseases in the Jefferson Medical College of Philadelphia.

Cases of rupture of the liver are rarely met with, and the length of time which the patient whose history I am about to recount survived the injury he sustained makes the case one of unusual interest.

The individual was twenty-eight years old, by occupation a mechanic. He was brought to me at the Jefferson Hospital by Dr. A. B. Harris, of Wilmington.

Dr. Harris stated that five weeks previous to the patient's admission to the institution he slipped while at work and fell with great violence against the machine upon which he was operating, striking upon the right side of his abdomen, and injuring his testicle as well. A severe orchitis supervened, while a sense of uneasiness and discomfort was experienced in the right hypochondriac region.

The inflammation of the testicle confined him to his bed. At the end of two weeks he was suddenly seized with agonizing pain in the region of the liver.

Dr. Harris states that when the patient first came under his notice there was pallor and coldness of the surface, with difficult and short sighing respiration, and small, feeble pulse; the abdomen was distended and painful, but not altogether tympanitic; there was great thirst, accompanied by itching of the skin and jaundice. All the local symptoms pointed to peritonitis. Being unable to lie down, he had to assume a sitting posture.

At the end of two or three days the symptoms somewhat improved, only to be followed by a renewed attack accompanied by an increase of the abdominal distention and jaundice.

Three days after the second attack a swelling just below the margin of the ribs on the right side made its appearance; this rapidly increased in size, giving rise to great pain and discomfort. It was soft, and was the seat of pseudo-fluctuation; this was aspirated, and a pint and a half of grumous blood removed.

On admission to the hospital the patient was emaciated, weak, with a temperature of 97°; pulse 158, small and feeble; tongue flabby and coated; skin and conjunctiva jaundiced. The abdomen was enormously swollen and tender, and on the right side just over the liver there was a fluctuating swelling about the size of an infant's head at birth. The point at which the aspiration had been performed was ecchymotic. There was slight diarrhea, the stools being of a chalky character. The left testicle was enormously swollen, and there had been an effusion of serum into the tunica vaginalis testis. The urine was deep red, with acid reaction; specific gravity 1.027; urea normal in amount; no albumin.

The patient was prepared in the usual manner for an abdominal exploratory operation. Chloroform having been administered, a free incision was made on the right side over the fluctuating tumor. On reaching the peritoneum, this was found to be very much inflamed and thickened, and when opened a semi-organized clot of blood about the size of the two fists protruded into the wound; its removal brought to view a tear in the right lobe of the liver, about three and a half inches in length and two and a half in breadth. Adhesions had formed between the peritoneum and the liver, forming a large sac which contained the blood-clot, part of which rested in the substance of the liver and the remainder in the sac. This was connected with the general peritoneal cavity by an opening about an inch and a half in diameter, through which protruded a piece of omentum, much congested and discolored, though not gangrenous. The abdominal cavity was full of bloody serum.

In order to establish free drainage, and get rid of any blood-clots that might be in the abdominal cavity, an incision was made in the left iliac fossa. After the serous effusion had escaped, the entire cavity was irrigated with a hot saline solution; a drainage tube was inserted in the opening in the left iliac fossa; the wound in the liver was packed with iodoform gauze; the portion of congested omentum was ligated and cut off; and the abdominal wound was closed and properly dressed. The patient rallied promptly after the operation, but the temperature remained subnormal, and the pulse continued weak and rapid.

External heat was applied and free stimulation employed. In twenty-four hours he became delirious; the jaundice increased in a marked degree. He gradually passed into a condition of coma, when death ensued.

A post-mortem examination was not allowed.

So far as I have been able to discover, death has invariably resulted from a rupture of the substance of the liver.

THE USE OF TURCK'S GYROMELE AND OTHER METHODS IN THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH.

By Edgar A. Planck, M.D.,
Union, Mich.

Many defects exist in the methods of diagnosis of gastric diseases which have been generally taught and accepted during the last few years. Especially is this true regarding the methods of determining the position of the stomach in cases of dilatation of that organ. I wish, at the beginning of this article, briefly to call attention to the various methods proposed, and the objections to each.

Percussion.—1. If the stomach is empty, no line of percussion sound is sufficient. 2. If the stomach contains air, gas, or water, the sound is transmitted to the colon; and if this also be distended, the most skillful percussion gives unsatisfactory results. 3. If the colon contains fluid or fecal matter, the percussion line of dullness will extend below the real line of the great curvature. 4. In cases with thick abdominal walls the results of percussion are negative.

Succussion.—1. Valuable only in selected cases, and even then the sound is so diffused that the position of the greater curvature is not accurately determined. 2. Succussion is usually most marked in cases without much dilatation. 3. Succussion cannot be made out in fat subjects.

Palpation.—1. Palpation is always negative without the use of the gyromele.

Leube's Method—external palpation combined with internal exploration.—1. Results are not positive. 2. There are eighteen distinct contra-indications to the use of this method, among which are pregnancy, cerebral hyperemia, angina pectoris, etc. (Boas, quoted by Musser in his "Medical Diagnosis.")

Inspection.—1. Practicable if the abdominal walls are thin and the stomach much dilated, but if the stomach be filled with fluid the greater curvature cannot be outlined.

Inspection by Trans-illumination with Electric Light.—1. With an empty stomach the picture is diffused and indistinct. 2. If the stomach contains water, a faint line may be observed, but the diffused illumination shows the colon or small intestine and leaves a doubt as to the location of the greater curvature. 3. The part where the light is does not correspond to the part illuminated. That part only is illuminated which is at the time in contact with the abdominal wall. 4. Trans-illumination is negative in case of fat abdominal walls. 5. The electric light is impracticable for use by the general practitioner.

Turck's gyromele consists of a flexible cable, to the end of which is attached a spiral spring covered by a sterilized sponge, which is removable and can be changed whenever desired. The cable passes through a rubber tube and is attached to a revolving apparatus for the purpose of producing revolutions of the sponge.

With this brief description of the instrument, I wish to consider the uses of the gyromele in the diagnosis and treatment of gastric diseases.

DIAGNOSIS OF GASTRIC DISEASES BY THE AID OF THE GYROMELE.

Location of Greater Curvature.—In the determination of the greater curvature, the gyromele, aided by external palpation, is undoubtedly the safest and most effectual method yet devised. When the sponge reaches the greater curvature, the cable bends upon itself, glides along the greater curvature on up to the pylorus, and even back along the lesser curvature.

The revolving sponge can be palpated from its entrance into the stomach, even through the lower ribs, but more distinctly as it emerges just below the ribs. The transmitted vibrations of the revolving sponge can be distinctly palpated on its entire excursion along the greater curvature up to the lesser curvature, and then backward in confirmation. Besides, that the sponge does course along the greater curvature has been conclusively shown by experiments on the cadaver, on dogs, and on cases of laparotomy.

The size of the stomach from the greater curvature to the lesser and from left to right can be estimated, thus giving an idea of the capacity of the organ, and, if desired, it can be accurately outlined on the abdominal wall.

Determination of Degree of Distensibility of the Stomach.—This is done by using cables of different degrees of flexibility. The stiffer cable, No. 1, may distend the stomach, while cable No. 2 does not stretch the organ at all, and cable No. 3 is so flexible that the most delicate and least resistant stomach is not pushed down. Thus, by comparison, a very accurate knowledge of the distensibility of the stomach may be obtained.

Use of the Gyromele to Remove Material for Microscopical Examination.—The method is as follows: The stomach is washed out, and all

FIG. 1.

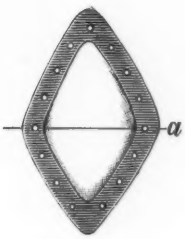


FIG. 2.

FIG. 3.

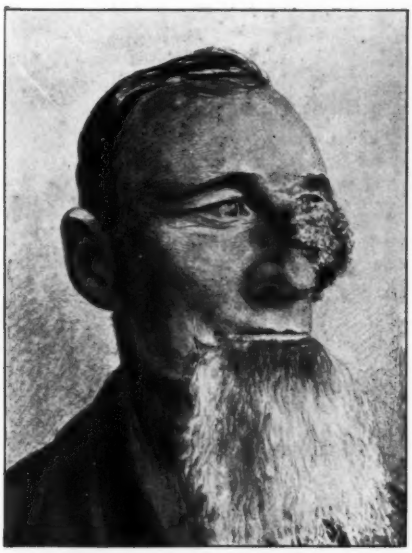


FIG. 4.

THREE CASES OF PLASTIC NASAL SURGERY—PAGES 433-436.

FIG. 5.

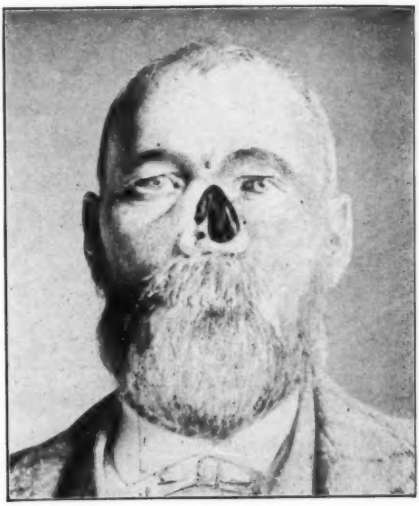


FIG. 6.

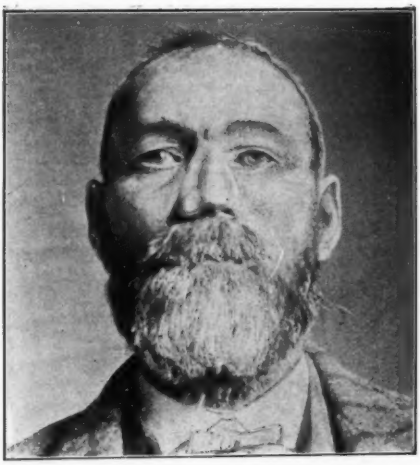


FIG. 7.

the water aspirated. The gyromele is introduced and revolved two to three minutes, either in one place, or drawn back and forth to touch all parts. Withdraw the instrument, and place the material thus obtained on slide and examine for—

(1) Cells from glands;
(2) Food detritus;
(3) Leucocytes;
(4) Mucus containing bacteria.

This mucus adheres to the stomach walls, partly by its gluey consistency, and partly by reason of the atonic condition of the walls. No other method of removing the mucus has been attended with the same degree of success, and the products of inflammation thus obtained aid materially in the diagnosis of gastritis.

The importance of the microscopical examination is well expressed by Turck:

> The pathological changes produced by the growing colonies of germs upon the walls will occasion a proliferation of the gland-cells, which will be thrown out upon the walls—leucocytes, round cells, thick, tenacious mucus, detritus of food, all swarming with micro-organisms. Where colonies of micro-organisms are found with the other conditions mentioned above, we can make a *positive* diagnosis, *whatever the etiological factors may have been.*

Use of the Gyromele in the Chemical Examination of the Stomach Contents.—The gyromele is useful in making daily observations as to the presence or absence of HCl, as material sufficient for all tests can be squeezed out of the sponge immediately after using. If the test shows at once the HCl reaction, we may safely conclude that atrophy is not present; if, on the other hand, no HCl is found, either atrophy exists in a marked degree, or the case is one of those rare cases of neurosis in which there is complete loss of the acid.

The activity of the rennet ferment may be determined by placing a drop or two of the gastric juice squeezed out of the sponge in ten cubic centimeters of milk, and allowing it to stand in a warm place. If the action of the ferment is positive, it should be shown in five to ten minutes, whereas the late appearance or the non appearance of the action of the ferment indicates its weakened activity or entire absence.

These simple determinations consume very little time, and are of the utmost value in watching the condition of the secretory glands from day to day during the progress of treatment.

THE GYROMELE IN THE TREATMENT OF GASTRIC DISEASES.

To Remove Mucus from Stomach Walls.—As a means of accomplishing this important indication, the gyromele is very efficient, especially if the soap solution be used in connection with it. The solution is forced down over the whirling sponge through the rubber tube which covers the cable. (I may remark also that any desired medicament may be introduced into the stomach in the same manner.) The soap solution is prepared by dissolving one drachm of green soap in a pint of water, and adding to this one drachm of lysol. About two to four ounces should be used at a time.

The sponge revolves from 200 to 600 times per minute, according to the cable used (stiff or flexible). For general purposes I would recommend cable No. 2, although No. 1 is much used.

For cleaning the walls of the stomach, the organ should be empty, and the best time is before breakfast, although it may be done just before the evening meal.

For the first week or two, in treating cases of chronic gastritis, it is essential that the soap and the material detached from the stomach walls be washed out. To accomplish this, I use Turck's needle-douche, which is a double tube, one tube being smaller and shorter than the other. The smaller tube reaches only to the cardiac orifice, and has attached to its apex a fine sprinkler, which throws a shower against the stomach walls. The longer tube reaches the bottom of the stomach, and through it, either by a siphon or an aspirator, the water and debris may be caused to flow outwards.

Turck originated this needle-douche and double tube, attached side by side, with a sprinkler at the end of the smaller tube. Marcy in 1883 used a single tube divided by a partition, and it acted as a douche-irrigator, but with the inflow and outflow at the same level at the ends of the tube.

When Turck's needle-douche is used with a force irrigator, a fine shower is thrown with considerable energy against the stomach walls, and all parts are thus equally acted upon. The effect upon the membrane is very similar to the effect of a rain douche or fine shower-bath upon the skin.

I can give no better idea of the use of the needle-douche than to quote from Turck's paper read before the American Medical Association at Baltimore, May 9, 1895, when he presented this valuable instrument to the profession. He said:

> For cleaning the stomach, I use an apparatus which consists of a double tube: a small short tube with a perforated ball at the end to be introduced into the stomach;

a larger tube for the immediate return of the water introduced. The water is forced through the small short tube under pressure, and returns through the large tube. This procedure will remove material from the walls, especially if soap is used. The apparatus possesses a great advantage over lavage, which simply removes loose material. In cases of dilatation, the large quantity of water necessary to wash out the stomach by lavage only aggravates the already prolapsed condition and distention of that organ. To overcome this objection, Fleimer recommends lavage in the recumbent position. In using the apparatus I have described, the water returns immediately through the large tube, so that it is impossible to overload or distend the stomach. Not only does this apparatus cleanse the stomach, but it also acts *as a needle douche*, and as such is a *vaso-motor stimulant*. It has been used with remarkable results for the last year in cases of pronounced gastroptosis and dilatation, *restoring* the *latent muscle* and *sluggish vessels* to their normal condition.

Its Use in Stimulating the Muscular Tissue of the Stomach.—The vibratory effect produced upon the stomach walls by the gyromele is very perceptible. The vibrations can be distinctly felt, and this has been repeatedly observed in experiments upon animals.

Vibratory effects have recently attracted considerable attention in the medical world, and it has been shown that their use increases the strength and tone of the general muscular system.

The effect which I have noticed in connection with the use of the gyromele is that the dilated stomach is soon able to empty itself within the normal limit of time, whereas before beginning the treatment the food would lie in the stomach until the following day. The muscular walls seem to gain power to churn the food and to force it through the pylorus.

Its Use in connection with Electricity.—When electricity is indicated in the treatment, it can be used with the gyromele, and all parts of the stomach easily reached. The sponge on the end of the cable acts as one electrode, while another can be applied to the abdominal wall, or the "indifferent" electrode can be used in the rectum, or a flat electrode may be placed in a chair to be sat upon. With the use of the gyromele as an electrode, the operator can know, by feeling the vibrations of the revolving sponge, when the pylorus is reached, and then, by making the electrical connections, establish a combined internal massage and electric treatment. The vibratory effect of the revolving sponge is greater than that of the electric current.

Its Use in Some Cases of Hyperacidity.—In some cases an excess of HCl is due to the irritation caused by the products adhering to the stomach walls, and the removal of this material by the instrument tends to decrease the irritation and, consequently, the excess of HCl. The accompanying pain and distress also gradually disappear.

Its Use in Some Cases of Constipation.—The effect of the gyromele does not seem to be limited to the stomach, but the circulation in the mesenteric vessels is stimulated, and the colon and intestines seem to receive their share of benefit. In those cases of constipation due to congestion of the visceral vessels and atony of the muscular tissue of the intestines, the results of its use are plainly seen in the relief which follows. Constipation is relieved, and in some cases it would seem that a direct relation exists between the use of the instrument and the relief of the constipation. However, constipation is a symptom caused by various conditions, and it is only the particular class of cases mentioned above which is benefited by the use of the gyromele.

The use of the gyromele and double tube is contra-indicated in cases of gastric ulcer. However, the soft flexible sponge produces no injury to the tender stomach-walls, provided the lesion does not already exist.

Many cases which have been cured by these methods of treatment might be cited, but I wish to present the salient points of only one, as it is a good illustration of the benefits to be derived from the use of the apparatus. The case was one of rather more than ordinary severity, and was typical in its etiology and pathology of a large class of chronic gastric diseases.

CASE.—Male, aged twenty-four, first complained of distress in the region of the stomach; pain diffused over the epigastrium; occasional nausea; gaseous eructations; a feeling of distention of the stomach, affecting breathing and heart-beat; general listlessness; anorexia.

The history, as pertaining to the stomach, was as follows: As a child he had a "weak stomach" and often suffered from attacks of fever and vomiting following errors in diet; had the habit of eating hastily and often; ate freely of pastries and other unsuitable foods. No constant distress in the stomach until three years ago; at that time began to complain of pain when the stomach was empty, which pain was relieved by the ingestion of food. Hence the patient acquired the habit of eating whenever the pain occurred. Began to lose flesh at about the time the pain was first noticed, and was about twenty pounds below his normal weight, and becoming pale, when examined.

To sum up: The patient had been a weak child, indulgent in diet, eating at unseasonable hours, bolting his food and suffering from occasional attacks of acute gastritis; within the last three years the disease had become chronic and progressive in character, notwithstanding the correction of dietetic errors and the institution of medicinal treatment.

Physical Examination: Weight, 128 pounds; complexion, pale; expression, melancholic; hair and skin dry; teeth in good repair; tonsils enlarged; rhino-pharyngitis; Luschka's tonsil hypertrophied; lungs and heart normal; liver and splenic areas negative; abdomen bulging in hypogastric region; right kidney palpable.

By use of the gyromele the greater curvature of the stomach was found to extend three inches below the umbilicus. Laterally the stomach extended to the right of the mammillary line. The organ was found to be distensible and lacking in resistance. The transverse colon was prolapsed.

Patient was directed to take Ewald's test meal on the following morning, and afterwards to appear for analysis of the stomach contents.

The contents of the stomach were aspirated one and a half hours after the meal, and examination resulted as follows: Quantity, 300 cubic centimeters; odor, butyric; on standing, separated into three layers, the upper one of mucus, the middle one of transparent fluid, and the lower one consisting of a granular mass of undigested food; no free HCl; total acidity, 22; action of ferments much delayed.

Directed patient to come next morning with stomach empty of food, for microscopical examination of its contents.

On December 4 the contents were withdrawn and found to contain debris of undigested food from the day before; no HCl.

Washed out stomach, and aspirated water; afterwards used gyromele for three minutes, took material from the sponge, and examined with microscope and found: (1) a few columnar cells; (2) particles of partially digested food; (3) many leucocytes; (4) groups of bacteria among the mucus.

Examination of the blood showed 3,970,000 corpuscles to the cubic millimeter; hemoglobin 55 per cent.

Examination of urine showed neither albumin nor sugar.

Diagnosis: Chronic glandular gastritis, with dilatation, in the second degree.

Treatment: I withdrew all medication. Used the gyromele daily, and during the first week the soap solution, and followed this by the use of the needle-douche. During the second week used the gyromele alone. At this time a return of the free HCl was noticed. The appetite improved and the gastric pain was lessened.

During the next month the gyromele was used three times a week. The result was a gradual improvement in all the symptoms. There was a gain in weight and a decided gain in spirits. The melancholia passed away. One fact in this case impressed me particularly, viz., the systemic depression, headache, and general "tired feeling," which occurred when the mucus collected on the stomach walls, and the great relief obtained by its removal by the gyromele. It seems to me that this fact proves that the depression and listlessness so often seen in chronic gastritis are due to the effect of the micro-organisms found in the stomach.

Examination two months after the beginning of treatment showed the greater curvature located at the umbilical line.

The motor power of the stomach is increased; it empties itself within six hours, and the test by the use of salol, as suggested by Ewald and Sievers, shows salicylic acid in the urine in seventy-five minutes; free HCl is present, and the total acidity is 48.

The improvement in the physical condition after disappearance of the symptoms was certainly a good result, and leads me to believe that in time the patient may be permanently cured, as many others have been.

The newer pathology and treatment of gastric disorders is developing rapidly, and, in my opinion, the old way of treating such cases entirely by the use of drugs is destined soon to become obsolete. Certainly no one who has witnessed the brilliant results obtained by the newer methods of treatment will doubt that ere long these methods will be permanently added to our resources in combating a class of diseases which has long proved troublesome to the profession.

A PLEA FOR THE EARLY EXCISION OF LABIAL EPITHELIOMA IN GENERAL PRACTICE.

By James J. Walsh, A.M., M.D.

Every now and then there are seen in the hospital service of a large city inoperable cases of labial epithelioma. These cases have usually been operated upon once or oftener,

but either the operation was originally delayed too long or, when done, not enough tissue was excised to secure non-recurrence. Yet all the authorities are agreed that it is in these, of all cancer cases, that prognosis as to recurrence after thorough timely operation is the most favorable. Even of epithelioma of the tongue, a much more serious condition, Jonathan Hutchinson has recently said:* "No one ought now to die of cancer of the tongue; nothing except neglect of the early stage can bring about such a result."

As a rule, of course, cases of labial epithelioma come during the early stages into the hands, not of the regular surgeon, but of the general practitioner. They do not come to him, however, at the very beginning, but usually after the failure of the fissure or ulcer (that represents the initial lesion) to heal under home treatment. This means a delay of some weeks, or even longer. The period from the original invasion of the tissues by the epithelial growth until the occurrence of glandular involvement which at once makes the ultimate prognosis doubtful is not very long. P. S. Connor,† before the American Surgical Association last summer, stated that "in the course of four or five, or maybe six months after the appearance of the initial lesion, infiltration of a gland or glands under the jaw usually takes place. Some cases of glandular involvement have been reported after only three months. While these cases of very early glandular involvement are probably rather irritative in character than metastatic—ordinary inflammatory products causing the enlargement, not cancer cells—still this cannot be depended on with any assurance; and enlarged lymphatics always seriously complicate the case and make prognosis uncertain."

When a case presents itself, then, for treatment with a suspicious sore on the lip, there is not much time left for expectant treatment. In the very mildest cases a month at most may be spent in the effort to secure healing of the lesion. The main part of the treatment for this will be the absolute exclusion of all possible sources of irritation that may be keeping up what is merely a chronic but essentially benignant inflammatory process. This must include above all the removal or proper treatment of broken or protruding teeth, and the absolute interdiction of smoking or chewing. Complete physiological rest, as far as practicable, combined with stimulation of granulation by ordinary applications—a mild caustic to begin with—will almost infallibly cure promptly a benign ulceration.*

If at the end of a month of care and observation no signs of absolute tendency to heal completely are manifest, then the patient's best interests will be consulted by the removal of a section of the lip wide of the infiltrated margin of the sore. This would be a good working rule, no matter what the age of the patient, for a number of labial epitheliomata have been reported as occurring under twenty-five, and I have seen within a year an inoperable case in a man not yet thirty. When the patient is over forty it becomes almost an infallible precept.

When the open sore has existed for some time, and there is considerable infiltration shading off into neighboring tissue, then the delay of a month may be dangerous. Especially is this true in the young, whose more active vitality hastens the usually chronic growth of such neoplasms.

Mistake in diagnosis is possible. The distinction between epithelioma and labial chancre may be difficult. Chancres of the lip are most frequent in women, in whom labial epithelioma occurs with extreme rarity. The comparatively quick onset of the chancre, its rapid course, the results of anti-syphilitic treatment, and the delay of a month after the case comes under observation, which is usually two to four weeks after the appearance of the initial lesion, will always clear up any doubt. The exceptional chancre or tertiary lesion that could not be diagnosticated by these means should be excised rather than that the patient be allowed to take the serious risk of further delay.

---

*Address in Surgery before the British Medical Association: *Lancet*, August 3, 1895.

†Transactions of the American Surgical Association: art., "Treatment of Cancer of Lip, Tongue, Floor of Mouth, and Pharynx."

*The use of caustics beyond the preliminary mild cauterization that is directed to the thorough destruction of microbes present, and the freshening of the tissues for the new growth of granulations that it is hoped will lead to healing without excision, is extremely inadvisable. The irritation set up, and the consequent inflammatory reaction, lead to a more rapid growth of epithelial elements, while the increased lymphatic activity favors their dissemination through the lymphatic channels and hastens glandular involvement.

In general, the so-called palliative treatment of neoplasms on the face with caustics gives ground for little ultimate hope of cure, and is the source of a good deal of danger. Even essentially benignant neoplasms such as cysts will in the course of time degenerate into true cancers from the almost constant irritation awaking the slumbering embryonic activity of epithelial elements; or is it that it furnishes a suitable culture medium for the growth of the cancer contagium?—J. J. W.

The general practitioner not doing much surgical work may hesitate at excision, for two reasons: first, supposed gravity of the operation; and second, the disfigurement of his patient.

The operation is extremely simple. The triangular excision is not followed by much bleeding, digital pressure easily securing the coronary artery on each side; and the hare-lip pin, which should penetrate all the tissue of the lip but the mucous membrane, with the figure-of-eight ligature, will control the arterial hemorrhage at once. Not too many turns of ligature should be used, as sloughing from pressure may ensue. The skin-edges and mucous membrane are then carefully coapted with fine silk ligatures. The dressing may be acetanilid collodion, which has neither the offensive appearance or smell of iodoform, acts distinctly as an anodyne in the slight inflammatory reaction that ensues, and is as efficient an antiseptic as the other powder. Roswell Park* has sometimes found that microbes from the buccal cavity (which is so rich in them) find their way under the collodion, are retained, and cause suppuration. Until the removal of the hare-lip pin, after preliminary stoppage of the oozing by intermittent pressure, he allows the wound to heal under a scab, which forms very rapidly, as a rule, in this situation.

The operation and dressing need not take longer at most than ten minutes. The one essential principle to be remembered in the operation is that, as Connor says (*loc. cit.*), with regard to the excision of tissue "sins of omission are much more frequent than those of commission." Too much will scarcely be removed under ordinary circumstances, but the excision of too little makes the operation worse than useless.

As to disfigurement of the patient, very little follows early excision. Where the lesion is central, as it often is, one-half the length of the lip can be excised,† and the yielding labial tissues — especially in those past middle age where some alveolar absorption has taken place — will make up for it, leaving scarcely more to be noticed than a linear scar. Where more than this is removed, slight splitting of the angles of the mouth to facilitate slipping of tissues will allow the edges to be nicely approximated; and where the defect is not central, splitting of that angle nearest the excision will greatly tend to obviate subsequent deformity.

The operation itself takes but a few minutes, and in most cases can be done without ether, Schleich's solution deadening sensation locally quite enough to make the operation almost painless. Within twenty-four hours after operation the patient can go on with his work. In two or three days the hare-lip pin is removed; in six days the stitches are taken out; and if the excision has been done well wide of the limits of the disease, the patient has been rescued from what might have been a fatal disease.

In one of two cases* operated on in the Out-patient Department of St. Agnes's Hospital within a year, the patient lost but the day of operation from his usual occupation; in the other the patient was a fireman working on the "night shift," and was able to work the night after the operation. In neither was there any complication, nor has there been any sign of recurrence; the deformity is scarcely noticeable.

As to the patient's permission to do the operation, most doctors have the experience that Jonathan Hutchinson† formulates so well. "I have never met a patient," he says, "to whom I have said kindly but seriously and confidently, 'You have got cancer,' who was not ready to assent to operation without delay."

Medical News, Jan. 11, 1896. Clinical lecture.
†Treves: Operative Surgery.

A MODIFIED METHOD OF ADMINISTERING OXYGEN AND ETHER.

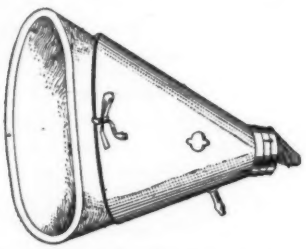
By H. A. Hare, M.D.,
Professor of Therapeutics in the Jefferson Medical College of Philadelphia.

The clinical results which have so far been obtained from the administration of ether and chloroform vapor when combined with oxygen gas seem to prove beyond all doubt that the oxygen decreases the danger of the anesthetic and to a large extent obviates the difficulties which surround the administration of these drugs, and most of the untoward effects which we are accustomed to meet with as a consequence of their use. Thus, when oxygen is given with ether, vomiting is less frequently met with, excessive pallor is rarely seen, and post-operative depression seems to be largely avoided.

As a general rule, however, it has been the

* Both these cases occurred in the service of Dr. Ellwood Kirby. The first was operated upon by Dr. Walter Reynolds, to whom thanks are returned for notes and permission to report the cases.
† *Loc cit.*

custom of physicians and surgeons who have employed oxygen gas in combination with ether or chloroform, to place the anesthetic in a wash-bottle and then to allow the oxygen gas to pass through it in such a way that the patient received in the inhaler a mixture of anesthetic vapor and oxygen, the mixture being made by the passage of the oxygen gas through the liquid anesthetic in the bottle. An evident disadvantage of this arrangement is that the quantity of anesthetic which is volatilized can only be in direct proportion to the volume of oxygen gas which is forced through the wash-bottle, and therefore with every increase in the quantity of vapor which the patient receives he must also receive an increased quantity of oxygen. It has been claimed, too, by those who have employed the ether and oxygen combination most frequently, that in a pretty large proportion of cases a greater length of time is required for the anesthetizing of the patient, and that in some cases it seems almost impossible to get the patient under the direct influence of the drug. We believe that this difficulty lies in the fact that as soon as a large quantity of oxygen gas is used, to convey a large quantity of anesthetic vapor to the lungs, the



Krohne & Seseman's inhaler, with respiration indicator.

patient rapidly passes into a condition which is called by physiologists apnea. The respiratory centre is no longer irritated by the normal proportions of carbonic acid in the blood, and therefore sends out feeble respiratory impulses; and as the patient does not breathe as rapidly or as deeply as before, the result is that very small quantities of the anesthetic are taken into the body. As an illustration of what we refer to, we may call attention to the familiar experiment of artificial respiration in the physiological laboratory, where if the bellows be employed too frequently and forcibly the animal soon ceases to breathe and will lie quietly almost without any respiratory movement for a considerable period of time after artificial respiration has been stopped. The explanation, therefore, of the difficulty of anesthetizing a patient with the ordinary oxygen-and-ether apparatus, is that the excessive quantity of oxygen which is conveyed to the patient's lungs develops the condition of apnea of which we have spoken.

The apparatus which the writer has employed with success, and which he suggests as a substitute for the one heretofore employed, is shown in the accompanying illustration which is taken from his article in Park's System of Surgery.*

It consists of a somewhat funnel-shaped piece of leather having a greater diameter in one direction than in another, into which is fitted a piece of soft felt or spongio-piline almost a quarter of an inch thick. In the under surface of the leather cone is inserted a small metal tube, and at the opening of this tube a small hole is cut in the spongio-piline. The ether is then poured upon the spongio-piline in the cone, in the apex of which is placed some absorbent cotton. The oxygen enters the cone by means of a rubber tube attached to the metal entrance which has been mentioned. By this arrangement several objects are accomplished. In the first place the supply of oxygen can be delivered to the patient in varying quantities without altering the amount of anesthetic which is being given. In the second place, any quantity of anesthetic can be employed without necessarily increasing the oxygen. Thirdly, the leather cone prevents the rapid evaporation of ether from the outer side of the spongio-piline. And fourth, the spongio-piline, being much more porous than an ordinary towel, will retain a large quantity of ether in liquid form when this drug is poured upon it. Finally, if desired, the same apparatus can be used for the administration of chloroform by removing the metal cap on the smaller end of the cone, as in this way the patient will receive not only the anesthetic vapor and the oxygen, but also fresh air through the end of the cone in such quantities as the physician deems wise. In these cases it is best to use the attachment known as the Krohne and Sesemann "respiration indicator," which, as seen in the cut, consists of a small feather on a pivot which moves to and fro with the motions of respiration, thereby providing the physician with a gauge as to the rapidity and force of the respiratory movements. The soft felt is very cheap, and a fresh piece can be used for each patient.

In conclusion, the writer cannot condemn

* Lea Brothers & Company. 1896.

too strongly the method of employing chloroform vapor and oxygen by passing the oxygen directly through the chloroform without the free administration of air in addition, for, after all, air is what we are intended to breathe, and not oxygen gas alone, although it may be advantageous at times to add an increased quantity of oxygen to the air.

Still more severe condemnation should be directed towards the attachment which is placed on some of the Junker inhalers, and which consists of a small rubber bag which, instead of acting as a reservoir of fresh anesthetic vapor and oxygen, is inflated and collapsed by the expiration and the inspiration of the patient, who does not receive even fresh oxygen and anesthetic vapor, much less fresh air, but, on the contrary, inhales again and again air, oxygen and vapor which are loaded with the impurities of frequent expiratory efforts.

[After this article had been put in type, the author saw an interesting paper by Dr. de Hart in the *Journal of the American Medical Association* of June 20, 1896, upon the same subject, in which was described an apparatus almost identical with the one herein recommended.]

THE TREATMENT OF VULVAR AND ANAL PRURITUS.

The *Journal de Médecine de Paris* of March 15, 1896, states that MORAIN carries out a treatment as follows: Morning and night the vulva is douched with water as hot as the patient can possibly stand, containing one per cent. of chloral, carbolic acid, or vinegar. Afterwards it is well to employ by means of a compress the following prescription:

℞ Hydrochlorate of cocaine, 15 grains;
Distilled water, 3 drachms.

Or the following ointment:

℞ Menthol, 45 grains;
Olive oil, 15 minims;
Lanolin, 1½ drachms.

[The proportion of menthol to lanolin is so great here that we would advise three or four times as much lanolin being employed.—ED.]

Instead of this ointment the following may be used:

℞ Bromide of potassium,
Salicylic acid, of each, 15 grains;
Glycerite of starch, 5 drachms;
Calomel, 2 grains;
Extract of belladonna, 2 grains.

Or the following lotion may be employed:

℞ Bichloride of mercury, 30 grains;
Alcohol, 3 drachms;
Rose-water, 10 drachms;
Distilled water, 1 pint.

In still other cases it may be necessary to employ the continuous or interrupted electrical current to the part as strong as can be borne. In particularly rebellious cases resection of the parts may be absolutely necessary.

In pruritus of the anus, Morain regards the influence of very hot water repeated two or three times a day over the parts as the best. He also suggests, with a view of overcoming any tendency to constipation, that the patient after preparing for bed shall use an injection of oil, or at least introduce within the anus some vaselin. An additional means of treatment of this troublesome disorder is to apply every night and morning a glycerole made as follows:

℞ Lime-water, 1 drachm;
Calomel, 30 grains;
Glycerin, 5 drachms.

Or the following ointment:

℞ Calomel, 1 drachm;
Vaselin, 1 ounce.

Or,

℞ Red oxide of mercury, 1 drachm;
Vaselin, 1 ounce.

Or, again, absorbent cotton smeared with oxide-of-zinc ointment may be applied to the anal opening; or cauterization of the painful part with nitrate of silver in the proportion of one drachm to the ounce may be used. Finally, quadrilateral scarification of the skin about the anus may be necessary.

PRIMARY EPITHELIOMA OF THE URETER.

RUNDLE (*Medical Week*, 1896, p. 549), in presenting a specimen, stated that fullness on the right side had existed a year before death. Examination had shown a fluctuating swelling beginning two inches below the liver, extending to the median line in the lumbar region. The urine was clear and freely passed. There were no symptoms of renal calculus. On tapping, there was evacuated eighty ounces of fluid with a specific gravity of 1.020, becoming nearly solid on boiling. Death was from exhaustion. The autopsy showed a large growth in the region of the kidney, beginning at the vesical end of the ureter and spreading into the bladder, seminal vesicles, and peri-vesicular tissues, upward to within an inch of the crest of the pelvis. The tumor was soft and friable, and was found to be a squamous epithelioma.

The Therapeutic Gazette

EDITED BY
H. A. HARE, M.D.,
GENERAL THERAPEUTICS,
AND
EDWARD MARTIN, M.D.,
SURGICAL AND GENITO-URINARY THERAPEUTICS.

SUBSCRIPTION RATES FOR 1896.
(PAYABLE IN ADVANCE.)

THERAPEUTIC GAZETTE (*postage included*).....$2.00
THERAPEUTIC GAZETTE with MEDICAL AGE..... 2.50
THERAPEUTIC GAZETTE with BULLETIN OF PHARMACY..... 2.50
THERAPEUTIC GAZETTE with MEDICINE..... 3.25
THERAPEUTIC GAZETTE with AGE and MEDICINE 4.00

Foreign subscriptions may be ordered either through our European branch, 21 North Audley Street, Grosvenor Square, London, W.; or through our agent in England, Mr. H. K. Lewis, Medical Publisher and Bookseller, 136 Gower Street, London, W. C. Price, 10*s*. Remittances may be made either by Postal Order or Stamps.

Price to Foreign Subscribers direct (postage included), $2.50 (10 shillings). English postage-stamps received on remittances.

Editorial communications should be addressed 222 South Fifteenth Street, Philadelphia. Articles intended for the Original Department of the GAZETTE will be accepted only with the understanding that they are contributed to it exclusively.

Authors will receive reprints in pamphlet form, without charge, provided the request for them be written on the articles sent.

Business communications should be addressed to

GEO. S. DAVIS, Publisher,

Box 470. DETROIT, MICH.

Leading Articles.

THE VALUE OF ACONITINE IN FACIAL NEURALGIA.

Notwithstanding the introduction within the last few years of a large number of very valuable pain-relieving drugs which find their best application in the treatment of neuralgic pains, there still remains a certain class of patients in whom painful nervous conditions exist which these newer remedies will not relieve, and as a result, after trying these recent additions to our materia medica list, we are forced to return, now and again, to remedies which were employed for this purpose many years ago and which are still employed by some practitioners in preference to their more recent relations. Among these drugs of the older class is the alkaloid of aconite or monk's-hood, namely, aconitine, which is familiar to some of the older practitioners as aconitia. For many years this remedy was constantly given for the relief of facial neuralgia, with more or less success; and even before aconitine was isolated, physicians had discovered that aconite itself was almost equally useful. So powerful was aconite considered in the relief of neuralgic pains that in his work on Therapeutics (the fourth edition of which was published as long ago as 1874) Stillé, speaking of neuralgia, said that "in the treatment of this distressing affection the benefits to be derived from aconite are unequivocal and precious," and he goes on further to state that "cases illustrative of its anti-neuralgic virtues are to be found in the periodical literature of the profession." It will be remembered, too, that during the past year Dr. Newton Hunsberger published an original article in the THERAPEUTIC GAZETTE in which he recorded the successful use of this drug in the conditions we have named.

At the recent meeting of the Association of American Physicians, in a discussion of the treatment of acute neuralgia of the face, Dr. Janeway, of New York, spoke favorably of the use of this drug for its pain-relieving properties, and dwelt upon a fact which is well known to many therapeutists and to chemists—that the aconitine of commerce is an exceedingly variable preparation so far as its therapeutic properties are concerned; he had often discovered that aconitine purchased at one drug store produced little effect in relieving pain, while that purchased at another instantly relieved the suffering.

In all probability this is due to the fact, overlooked by many physicians, that there are two forms of aconitine upon the market, one of which is amorphous and the other crystalline. The crystalline form is the variety which possesses the greatest usefulness, and that known as Duquesnel's aconitine is always to be employed. The aconitine made by the process advised in the British Pharmacopœia—which is similar to that obtained by the process directed in the Pharmacopœia of the United States for 1880—is an uncertain preparation, frequently in large part composed of pseudo-aconitine. Further, of amorphous aconitine there are two varieties, the hydrated and the anhydrous.

The dose of pure aconitine is as yet undecided because of the uncertainty and impurity of many of the specimens which have been tried by physicians. Thus, it is stated that as much as 2½ grains of so-called aconitine has been taken with impunity, and, on the other hand, that a fatal case of poisoning has resulted from the administration of $\frac{1}{128}$ grain. Further than this, the U. S. Dispensatory asserts that $\frac{1}{64}$ grain is probably the largest amount that ought to be administered. On the other hand, it is commonly stated by a number of

authors that the dose is $\frac{1}{100}$ grain, and it will be remembered that in Dr. Hunsberger's article that writer stated that he administered to one of his patients $\frac{1}{200}$ grain of aconitine every two hours with no apparent effect until the second day.

The general trend of professional opinion seems to be that, owing to the powerful poisonous influence of this alkaloid and the uncertainty of its dose, it is not justifiable to administer it internally; personally we would feel that if we did give it internally we would be running a considerable risk and in the event of accident would be held responsible for any disagreeable results which might ensue. In those instances in which the drug must be given, we would prefer to use full doses of a fluid extract of aconite which had been carefully standardized—such, for example, as normal liquid aconite. In this way the drug may be administered without any of the uncertainties that we have named.

It should not be forgotten that aconitine in the form of the oleate of aconitine or in the form of an ointment has been largely and successfully employed externally by being painted over a neuralgic nerve—its influence here consists in paralyzing the peripheral ends of sensory nerves; but even this application has sometimes resulted in the absorption of so much of the remedy as to produce alarming symptoms.

THE PROPHYLACTIC INFLUENCE OF QUININE.

In a letter from our Paris correspondent which appeared in the May number of the THERAPEUTIC GAZETTE, will be found a brief account of a recent discussion before the Academy of Medicine in Paris, in which a French physician had the temerity to assert that quinine is of no value as a prophylactic against malarial fever—a statement which was combated by others who were present, notably by that well known investigator in regard to the malarial germ, namely, Laveran.

It seems hardly necessary at this period in the history of medicine, and in view of the well known results following the administration of quinine in cases of malarial fever, and the recent studies which have been made which show that the derivatives of cinchona are destructive to the malarial parasite, for us to cite instances of historical facts in contradiction to this absurd statement made by the Parisian physician above referred to. No sooner was cinchona found to possess anti-malarial powers in those already suffering from the disease than its use was extended to the prophylaxis of malarial fever, and as long ago as 1854 there was a standing rule of the British Navy that when seamen were sent ashore in tropical malarious regions every man in the crew should receive a dose of cinchona wine as a prophylactic; later, quinine was employed in place of wine of the bark.

The experience of medical officers in the British Army and Navy in the Crimean War, of South American physicians, and of American physicians and surgeons, points to the value of quinine as a prophylactic beyond all doubt, and Stillé tells us that in 1840 Dr. Van Buren (U. S. A.) employed cinchona as a prophylactic at Fort King, Florida. Further than this, careful comparative studies have been made in the British and American armies as to the value of quinine under these circumstances, and, in one notable instance, an East Indian surgeon records that one regiment exposed to malaria was protected by the daily administration of quinine while another regiment at the same station which did not receive quinine suffered most severely from malarial infection.

It would seem that those who attack well proved and authenticated facts in therapeutics after all perform a valuable function in medical life by doing so, for they not only call attention to their own mistakes, but also remind their fellow practitioners of facts which may have been partly lost sight of in the hurry and strain of daily practice.

THE RELATIVE INFLUENCE OF POTASSIUM AND SODIUM SALTS ON THE SYSTEM.

We have already called attention in a leading article in the June GAZETTE to the paper of Dr. Weir Mitchell, concerning the mental disturbances produced in some persons by full doses of the bromides (chiefly the potassium bromide). These disturbances, it will be remembered, do not consist merely in the stupid mental state so often seen from the use of the bromides, but also include, as Dr. Mitchell pointed out, symptoms of more or less marked insanity in susceptible persons. In the discussion which followed Dr. Mitchell's paper the editor of the GAZETTE called attention to the fact that in the use of the bromides and other drugs of the same class, physicians were wont to look for all the influences exerted to the acid rather than to the base, and

stated that when full doses of any one of the potassium salts were used a definite and well marked physiological action took place in addition to that produced by the bromine, iodine, or other medicament ingested with the potassium; further, that the effect of the potassium in large amount was distinctly poisonous to all protoplasm, and in small doses acted as a depressant to important vital functions, and that for this reason preparations in which sodium was the base were to be preferred. With these views, however, some of those present did not agree, and Dana of New York went so far as to speak of the possibility of potassium exercising any depressant effect as a "bugaboo" unworthy of credence and never seen in practice, although the writer of this article asserted that he and other clinicians had noted this well known fact by the bedside.

As a matter of fact the evidence in support of the writer's views is sufficiently strong to indicate that the old maxim, "None are so blind as those who will not see," is once more proved correct.

If we regard the matter from a purely scientific basis we find that as long ago as 1867, Rabuteau, from his investigations, laid down the rule that the poisonous action of the metals increased with the atomic weight amongst the elements of the same group—so that potassium, the atomic weight of which is 39, is more poisonous than sodium, the atomic weight of which is 23. Again, if we take chlorine compounds, we find that chloride of potassium is a muscle-poison and that chloride of sodium is innocuous. The studies of Guttmann, Ringer, Claude Bernard and several others prove that "potash salts are all far more poisonous than soda salts," and that the acid of the salt plays no part in producing the poisonous symptoms in such salts as the nitrate, carbonate, and chloride; or, in other words, potassium is always a poison in itself. Full doses of the potassium salts, we are told by Ringer, lessen the frequency and force of the heart's beats and make them irregular, and again, "that soda salts in twice or three times the quantity which proves fatal in the case of potash salts, produce no effect on the system save a passing weakness." Even in still larger doses soda salts exert no influence on the heart or the temperature, or on the brain, cord, nerves, or muscles, whereas potassium does depress all these functions or parts. In regard to bromide of potassium, Ringer states, after discussing the experimental evidence, "it produces the same symptoms, in the same order, as other potash salts, and that the more or less rapid induction of these symptoms depends on the amount of potash the salt contains. Bromide of potassium, like the chloride, paralyzes not only the central nervous system, but likewise the nerves, muscles, and heart, the central nervous system being affected sooner than the nerves, and the nerves sooner than the muscles; and therefore we conclude that these effects of bromide of potassium, which it possesses in common with all potash salts, are due solely to the potash, the bromine playing no part in the process."

Leaving the scientific side of the question, and turning to that of practical therapeutics, we need only reiterate the fact that we have seen potassium salts in full doses produce depression, and quote from the New Sydenham Society's Translation of the Lectures on Pharmacology of Professor Binz, of Bonn. Thus, after detailing the symptoms produced by large doses of bromide of potassium in healthy young men, in whom there was a fall of temperature and feebleness of the heart, Binz says: "Control experiments with potassium chloride showed that the effect on the heart was always largely due to the potassium. Later on we shall have yet to consider in detail the very marked effects which the salts of potassium exert upon the heart's action."

And again Binz states: "Sodium bromide, taken by the same individuals in the same manner as the potassium salt, produced the same effects on the nervous system, but not on the pulse and temperature."

To quote once more from Binz: "If potassium bromide has been taken for a considerable time, or even for a few days only, by susceptible persons, it has been observed to affect the *heart* unpleasantly, the pulse becoming feeble, irregular, and intermittent. This is doubtless due to the potassium, which, constituting thirty-three per cent. of the salt, may very readily, given in the large doses above mentioned, and in a form so easily absorbable, exert its depressing influence upon the heart's action. *For this reason sodium bromide is preferred by many physicians.*"

The following editorial note from the London *Lancet* of April 4, 1896, still further indicates that the potassium base produces poisonous symptoms:

The coroner for mid-Essex held an inquest on March 26 on the body of a man whose death appears to have been due to excessive indulgence in what is usually considered to be a comparatively safe drug—namely, bromide

of potassium. Suffering from neuralgia, he had been in the habit of taking this salt in doses of two to three drachms. The drug does not appear to have produced any of the usual symptoms of bromism, but may have caused the palpitation of the heart of which the deceased had frequently complained. During the night of March 23 he felt very cold, gave two deep gasps, and almost immediately expired. The medical practitioner who was sent for stated at the inquest that he found the deceased quite dead, his mouth wide open, the eyes half-closed, and the pupils somewhat dilated. A bottle containing the drug was on the table, and examination showed that it was pure bromide of potassium. The witness attributed death to failure of the heart's action caused by taking the bromide. This case is interesting for several reasons. It proves in a marked manner the danger of taking any drug, however harmless it may be reputed to be, in large and repeated doses without the advice of a medical man. No doubt in this instance a medical attendant would have recognized the depressant action the salt was exerting upon the heart and would have discontinued its use. Even in the most modern works on therapeutics this danger is not mentioned, yet it is well known that all potassium salts cause "depression, shown by diminished energy of contraction of the cardiac muscle, with final stoppage in diastole" (T. Lauder Brunton). As this bromide is constantly administered in large and repeated doses, the action of its basic constituent should always be borne in mind, and if signs of its depressant effect are observed its use should be abandoned, the bromide of some other base being selected if in other respects the action is beneficial. Many secret remedies for "fits" contain this drug in large quantities, and it is evidently desirable that the public should be warned that their use is not unattended with danger.

DIFFICULTIES ENCOUNTERED IN REDUCTION OF DISLOCATION OF THE HIP.

By far the most noteworthy recent contribution to the important subject of hip-joint luxation is the Samuel D. Gross prize essay contributed by Dr. Oscar H. Allis. The author maintains the following propositions:

"1. The capsule is the most important agent against traumatic dislocations of the femur.

"2. For the laceration of the capsule and dislodgment of the head of the femur, the femur is employed as a lever.

"Every lever has a fulcrum; the fulcra required in dislocations of the femur are bony and ligamentous.

"4. Dislocation by thrust, if possible, is infrequent.

"5. Reduction by circumduction is the simplest, the most brilliant, and the most hazardous of all modes of replacement."

The introductory study is devoted to the anatomy of the part. Allis summarizes the functions of the ligamentum teres as follows:

"1. The teres does not prevent dislocation, since it is possible to tear it from the head without completely dislocating the head.

"2. The ease with which the teres can be torn after division of the capsule is also proof that its function is not that of a ligament.

"3. While it is true that the teres may be torn without a dislocation taking place, it is also true that without rupturing it a complete dislocation is possible.

"4. If the teres escapes rupture in the process of dislocation, it is highly probable that it will be ruptured during efforts at replacement, if circumduction be employed.

"5. As there is no evidence that the teres contributes to the normal security of the joint, therefore insecurity or weakness of the articulation after the reduction of a dislocation cannot logically be attributed to its loss; nor can its absence be said to favor subsequent dislocations.

"6. After reduction, no unusual position of the limb or foot (such as flexion, inversion, or abnormal eversion) can justly be attributed to the lost function of the teres."

The functions of the capsule are:

"1. To check the movements of the femur, against a tendency to transcend the limits of safety. If one will dissect every structure from the joint but the capsule, he will be surprised at the resistance this single structure will offer to diplacement.

"2. To offer a large surface for the attachment of muscles that contribute toward the safety of the joint and preside over the movements of locomotion.

"3. To furnish a large surface for the display of synovial membrane.

"4. To form a shut sac for the retention and distribution of synovia."

There follows an interesting and convincing demonstration of the mechanics of the ligamentous formations about the joint. The fascia lata is studied in detail, and the following *résumé* of its functions is given:

"1. It forms the sheath or envelope of the most important walking muscles of the thigh; during progression the tension of this fascia (through the gluteus maximus and tensor vaginæ femoris) is of the utmost advantage; through the same muscles it steadies the head of the femur in the socket.

"2. It checks adduction of the extended thigh through the ilio-tibial band.

"3. It checks outward rotation of the extended thigh.

"4. It assists the hamstring muscles and the sciatic nerve in checking flexion of the extended limb.

"5. It checks a tendency to hyperflexion of the thigh upon the abdomen.

"6. It contributes largely to man's ability to stand at rest.

"7. After reduction of a dislocation at the

hip-joint, the fascia lata and the untorn portion of the capsule are our main reliance in retaining the head of the femur in place. If the feet are tied together, the fascia and nothing else presses the head into the socket.

"8. After fracture of the neck this iliotibial band is relaxed during adduction.

"9. As adduction tightens the ilio-tibial band, and abduction relaxes it, the latter position is voluntarily assumed in the early stage of hip disease.

"10. As flexion of the extended limb tightens the fascia lata and drives the head into the socket, this manœuvre elicits pain in the early stage of hip disease."

In considering the sciatic nerve and hamstring muscles in relation to luxation, Allis shows that if the femur is abducted at right-angles with the pelvis the leg must be flexed to relax the nerve and the hamstring muscles. If, however, the femur is carried still further outward, the head may burst through the capsule and be dislodged inward. In this case the nerve of course escapes, but should the head be shifted from the position of thyroid luxation to that of dorsal luxation there is danger to the nerve, since there is but one possible path for a dislocation inward to take in order to become a dislocation outward, and that is, between the hamstring tendon and the socket; and since the tendon of origin of these muscles is within half an inch of the socket, and the nerve is nearer, if anything, under no circumstances can the head be circumducted and carried outward without traumatism, more or less severe, to the nerve. If the sweep of the knee through which this may be effected be a large one, and especially if there be sufficient extension of the leg on the thigh to shorten and make tense the nerve, then there is great danger that the head will pass between the nerve and the tendon.

If such a condition be suspected, the fact may be ascertained by having an assistant push upward upon the knee in the direction of the long axis of the shaft of the femur, while the surgeon, by extending and flexing the leg, will find that the nerve may be alternately tense and relaxed in the popliteal space if it be over the neck, and the head out of the socket. In such a case the successful reduction of the head will release the nerve, but the traumatism may have been so severe that a prolonged neuritis or a partial or complete paralysis may result. "If the head, in its transit from within outward, pass between the nerve and the socket, the former may be bruised a little, but not detached from the tendon, and will lie, after dislocation, between the head or neck and the tuberosity."

"When dislocation of the neck occurs, the danger of hooking up the nerve through the efforts at reduction will be greatly increased if the head in passing outward catches up the nerve and tears it from its attachments. This is no random statement. Bigelow, Morris and Johnson have caught it up in experimental work, and Koons did it in actual practice.

"If the nerve be hooked up during the reduction, the following conditions will be present: The nerve will cross the front of the neck and lie beneath the untorn parts of the capsule and the tendon of the psoas muscle; it then descends through the rent in the muscular partition to the adductor magnus, beneath which it descends to the popliteal space. At least three inches of the nerve are taken up in this detour, and hence the thigh *must* be flexed on the pelvis, and the leg on the thigh, to accommodate them to the shortened nerve.

"If the dislocation occur through flexion, adduction, and rotation inward, the capsule may yield and the head may escape outward and downward without touching the pelvis in the descent. In such cases I have seen the head fall directly upon the nerve, from which it can slip to either side."

Following these anatomical considerations is a study of the mechanism of dislocations artificially produced. This experimental work, Allis tells us, is fully and minutely corroborated by actual traumatisms, and he proceeds to prove his proposition by reports of cases in his own practice and taken from medical literature. In considering the mechanics of reduction he describes an exceedingly ingenious and seemingly practical way of fixing the pelvis and apparently gaining full control over the femur.

In describing the phenomena of dislocation, the author gives special directions for cleaning out the socket, having frequently observed in his work that so much detached muscular material has been carried into the socket during the course of reduction as to give the restored limb a constrained position. If any portion of the capsule is torn off, it must be the pelvic, and Allis holds that all foreign substances which enter the socket must enter its lowest segment. It is clear that the side of the head that drives the capsule before it into the socket cannot be made available to remove it; this must be done by

the opposite side; hence if the capsule has been pushed into the socket from the dorsal aspect, the first step is to flex and abduct, while if the entrance has been made from the thyroid aspect the femur must be flexed and adducted to accomplish the same end. After engaging the inverted capsule the femur should be rotated inward to tighten the Y-ligament and drive the head down into the socket, while at the same time the knee is raised and the foreign matter is removed from the socket. The success of the method will be apparent by the free and unembarrassed motion of the femur.

From the experimental standpoint Allis would urge upon every one the importance of testing the degree of extension and adduction after every reduction.

The second part of the work is devoted to reduction of dislocation by manipulation.

Allis lays it down as an axiom that every dislocation must be restored through the steps in the reverse order of the displacement. For the replacement of the head by direct steps in inward dislocation he offers the following directions: 1. Flex and abduct the femur. 2. Make traction outward. 3. Fix the head by digital pressure, and adduct.

The medical profession, says Allis, has long practiced, with variable success, methods somewhat resembling that which has just been described. Authors recommend: 1. To flex and adduct the thigh. 2. To make perpendicular traction upon the knee, and follow traction by adduction. 3. To make traction with adduction, using the foot in the groin as a fulcrum. 4. To place the patient astride a bed-post, using it as a fulcrum while extension and adduction are made. 5. To make traction and adduction while an assistant with a fillet passed between the thighs makes traction upward and outward.

All of these have been recommended, but success in their employment does not depend upon the scientific application of the principle. In all adduction is made a prominent feature; but adduction, if attempted too early, defeats its own end.

Reduction by the indirect method, *i.e.* rotation, is not favored.

In considering the reduction of dislocation outward, Allis calls attention to the striking resemblance between two very diverse conditions, viz.: "a dislocation primarily inward into the thyroid depression, but which has by secondary influence been rotated outward, so that the foot points outward and backward; and another, dislocated primarily outward, but which by reversed action also yields a foot turned outward, or even slightly backward.

"As these two conditions are the result of forces directly opposed to each other, their reduction will evidently require equally diverse methods. In neither form of dislocation will there be evidence of decided fixation, nor will the limb refuse to lie parallel with its sound fellow.

"Extreme outward rotation in which the inside of the foot tends to look outward—the heel forward and inward—is hardly possible in any condition save that of a primary dislocation inward, with external rotation, the head being controlled by the Y-ligament, which is untorn. The outward rotation of everted dorsal is rarely beyond rectangular eversion. To determine whether the case in question be an everted dorsal, let the operator make a gentle attempt to rotate still further outward. This will be checked because the Y-ligament lies in front, and external rotation will make it tense. Not so with the 'thyroid reversed:' in this case the Y-ligament lies behind, and rotation, after the foot looks backward, can still be increased.

"If the foot looks backward or outward, find the head; to do this, locate the inner condyle—it points in nearly the same direction as the neck. After this locate the great trochanter—it will lie internal to the dividing line between the two divisions of the bone, when the head has been dislocated primarily inward; but if the head be dislocated primarily outward, the trochanter major cannot lie internal to this line.

"Lastly, make direct pressure upon the head: if it be a reversed dorsal, the head will sink; if a shifted thyroid, the upper end of the femur will have a bony support; if it be a dorsal with eversion only, the head can be felt by direct pressure; if it be a shifted thyroid, the trochanter can be felt as well as the head.

"It must be evident, therefore, that retracing the last step of dislocation is not a simple or unimportant matter; that a confident rational procedure will only be based upon a knowledge of the path taken by the head. As we are now dealing with dislocations outward, the first thing to do with an everted dorsal is to convert it into an 'inverted dorsal.' To do this, flex (this will relax the Y-ligament), abduct, and rotate inward. The operator should observe carefully that the head follows the manipulation; if it does, he has retraced the

last step of dislocation and is ready to undertake the second step.

"In the second stage of dislocation the head left the region of the socket and fell outward and downward until arrested by the yet untorn part of the capsule; hence to retrace the second step—*lift*.

"To complete the second stage, the head must be turned inward to the region of the socket; and now note that the tendon of the hamstring muscle and its attendant, the great sacro-sciatic nerve, are directly in the way.

"This is a most critical moment, for the head must be turned into the region of the socket, and has no other path than between the tendon and the socket. To do this while the limb is lifted vertically with the leg flexed at right-angles to the femur, which relaxes the tendon and nerve, turn the leg as a crank downward and inward until the heel looks footward. Do not use violence. If obstruction be experienced, it cannot at this stage lie in the capsule; it cannot lie in anything over which violence will prevail. It will lie in one of three things: either the head strikes bone, in which case it must be lifted higher; or it strikes the tendon; or the nerve. In case it strikes the tendon, it can be readily shifted, and the escape of the tendon may be followed by a similar escape of the nerve. I have frequently caught them in succession, and have so caught up the nerve as to flatten it over the head, and being spread out twice its original size it has barred my progress to the socket. Therefore I urge caution at this stage, for if the nerve be caught and force applied, it (the nerve) has one of three destinies before it: it must effectually bar all entrance to the socket, or slip off the head and escape, or slip off the head upon the neck of the femur, from which it can with difficulty be disengaged. I speak of this as a moment of peril, for no one, when he undertakes to restore a dislocation, can tell what degree of havoc attended the original traumatism, and whether or not the nerve has been freely stripped from its attachments to the hamstring (biceps) and lies dangling like a large cord in front of the socket.

"If the head has met with no obstacle in rotation, it is now ready for the last step. Please note the position of the head of the femur: it rests upon a ridge between the outer and inner planes. It has reached its present position by being lifted to a level with the socket and rotated obliquely beneath it. There are three courses open to it now: it can fall outward, pass inward into the thyroid depression, or ascend obliquely upward into the socket. There are two ways for accomplishing a happy replacement:

"The first is by traction. By this means the knee is lifted skyward, which relaxes the remnant of capsule, while an assistant with his thumbs makes direct pressure upon the head in the direction of the socket. This may reduce it; if not, the operator may bring the knee down in extension, the assistant still keeping up the pressure upon the head. The manœuvre should not be attended with violence or dispatch. The surgeon, if he encounters resistance, should be warned by it, and retrace and modify his course. Usually the head will pass noiselessly into the socket.

"The second, or indirect, method is to employ the Y-ligament of Bigelow as a fulcrum to drag the head into the socket. The reader will bear in mind the position of the head: it lies below the socket, and must be directed obliquely upward and outward.

"If, now, the knee, with the leg flexed, be carried directly downward in extension, the remnant of untorn capsule (Y-ligament) will be made tense, and the head be lifted into the socket. Should the head slip outward upon the dorsal aspect, it must be replaced by lifting, and, instead of extending the knee directly downward, it should be a little abducted and then extended. If, on the contrary, the head slip inward into the thyroid depression, then the knee should be adducted and the Y-ligament tightened a little by inward rotation. If, now, extension be made, the head will be directed in the course of the socket."

Allis ascribes failure of reduction to lack of skill or facilities in the operator; obstacles that prevent the head from entering the socket; obstacles pushed into the socket by the head; the sciatic nerve hooked over the neck of the femur. If the nerve has been caught up, the immediate effect will be flexion of the thigh upon the pelvis owing to the sudden shrinking of the nerve. There will be imparted to the limb a springing motion which it can get in no other way.

Diagnosis is founded upon the tense, cord-like nerve in the popliteal space. The operator has but one course to pursue, namely: "1. Redislocate the femur; patient supine. 2. Extend the thigh. 3. Flex the leg on the thigh to relax nerve. 4. Turn the ankle of the flexed leg out until the leg is horizontal: the head will now look perpendicularly downward. 5. Shake, rock, jar, adduct, and abduct, with a view to disengage the nerve

from the neck, and make it drop down below the level of the head. 6. Rotate the head into the socket without making the nerve tense—*i.e.*, by not flexing the femur."

The work finally closes with a chapter on "Dislocation of the Head of the Femur Complicated with Fracture of the Shaft."

A summarizing of this important contribution to surgical literature is practically impossible. For a thorough understanding of the subject, every word must be read and carefully considered. As nearly as possible in Allis's own words there have been given in this article the conclusions reached by the author. These conclusions are not open to adverse criticism. They seem clear, logical, rational, and the deductions as to treatment as the result of his studies are so evident that they will probably be universally accepted.

Reports on Therapeutic Progress

ON MECHANICAL SUPPORT OF THE LUNG IN PHTHISIS.

TIDEY recommends this practice in the *British Medical Journal* of March 21, 1896. He says the suggestion to strap the chest in phthisis is invariably met with the objection that one of the objects of treatment in that disease is to expand the chest and so call into play portions of lung which in conditions of sub-active health take little or no share in the respiratory process. This objection does not recognize the change in the mechanical conditions of respiration produced by disease of the lung substance. In health the respiratory capacity of the lung is commensurate with the semi-circumference of the thorax. The diseased lung may be regarded as decreased in bulk, so far as function is concerned, by the amount of lung tissue involved, and it follows that the best mechanical conditions of respiration will be secured by reducing the thoracic cavity in proportion to the reduced bulk of lung. Natural processes of repair tend to secure these conditions, but only lead to complete cicatrization when the disease is of very limited extent. We then find, clinically, a flattening of the chest-wall, dislocation of adjacent organs or hypertrophy of the opposite lung, and anatomically a cicatrix, bands of fibrous tissue, a puckered lung surface, and thickened pleura —all evidences of a natural effort to fill up space originally occupied by healthy active lung tissue. Natural processes are unable to overcome the mechanical obstacles to complete cicatrization when the disease involves more than a small maximum of lung tissue. Bands of cicatricial tissue radiate from the focus of disease to surrounding parts, and, contracting, draw inwards healthy lung to occupy the diseased area, and the chest-wall closes in and accommodates itself to the diminished bulk of lung. Auxiliary processes are pleuritic thickening and emphysematous dilatation of the alveoli about the diseased area. All these processes are slow and uncertain. The cicatricial traction is itself a source of chronic irritation. The neighborhood of the fibrous bands and the emphysematous zones are *loci resistentiæ minoris*, and form favorite lines of march for the invading specific element of the disease. The obvious indication, then, is to aid the natural processes of repair by reducing the thoracic cavity, thereby relieving them of the work of strenuous, prolonged, and often inefficient cicatricial traction. In so far, then, as the inflammatory element in phthisis is concerned, rest and relaxation of the inflamed tissues seem indicated and essential to the healing process.

Comparative rest of the lung may be secured by keeping the patient at absolute rest day and night, but this system has obvious disadvantages, while it fails to fulfill the local indications of rest with relaxation. The English school aims at developing the latent resources of the lung so as to compensate for the loss of respiratory surface, while placing the patient under conditions inimical to the extension of the specific element of the disease, and promoting general nutrition. In extreme cases where this object has been attained, one finds an immense development of the base of the lung, with extensive cavitation towards the apex. The cavitation is a constant source of danger, while the hypertrophy does not necessarily secure proportionately increased aëration of blood, because the latter depends on range of movement as well as on effective respiratory area. With permanently increased circumference of the lower thorax, there must necessarily be decreased range of movement. Such cases suggest how much better it would have been if the compensatory hypertrophy had extended inwards instead of outwards, so as to have invaded and occupied the excavated region.

Two clinical considerations lend weight to the argument in favor of strapping the chest in phthisis, namely: (1) the fact that pleuritic effusion frequently leads to amelioration

of the lung affection in phthisis; (2) the fact that during pregnancy the course of phthisis is often temporarily arrested. Both these phenomena produce similar effects on the lung to that produced by strapping.

The above considerations led Tidey to the practice of strapping the chest-wall as part of the treatment in phthisis, especially applicable in cases of unilateral disease of the apex. The method he adopts is to apply the anterior end of the strap over the lower sternum, and direct the patient to breathe out while he draws the strap round the lower thorax and fixes it over the vertebral column. He uses either strips of strapping or a suitably sized (14 inches by 5 inches) piece of chamois leather spread with plaster, an appliance which adapts itself well to the chest-wall without giving rise to discomfort. The appliance should be kept on till all signs of disease have disappeared and healing is complete. He directs the patient to take a moderate amount of regular exercise and to practice deep breathing. The exercise and deep breathing tend to bring into play all portions of lung not habitually active, while the strapping directs healthy lung to encroach on the diseased region.

The immediate effects of strapping, so far as the writer's experience goes, are decrease of cough and expectoration, followed by cessation of night sweats, gradual fall of temperature, and improvement of general symptoms. The effect on the physical signs is to show a dislocation upwards of the seat of lesion, with gradually decreasing evidences of disease, an encroachment of abdominal organs towards the thoracic cavity, and an absence of falling-in of the upper chest-wall.

The advantages of strapping may be briefly summarized as follows:

In early phthisis (catarrhal stage), to give comparative rest and relaxation to affected lung tissue.

In the stage of consolidation, to secure the same results, thereby limiting the risk of extension; to promote elimination of the disease products by improving the circulation in and about the diseased area; and to facilitate expectoration.

In the stage of cavitation, to promote closing of cavities by directing healthy lung to encroach on the diseased area, instead of relying on natural processes of cicatrization.

Diminished tendency to hemorrhage, by reduced tension on vessels and cicatricial traction on vessel-walls.

The ultimate object is to obtain a smaller thoracic cavity filled with healthy lung, instead of an enlarged thoracic cavity partly filled with diseased lung.

The writer wishes it to be understood that he does not propose this method as a cure for phthisis, but as an essential element in the treatment of that disease directed against the inflammatory lesion, an element which will greatly enhance the value of specific and climatic treatment, and without which those methods will be powerless to restore an extensively damaged lung to a condition of mechanical integrity. The latter essential is now habitually left to natural conservative processes which are inadequate to fulfill it when the lesion is extensive, and only do so with difficulty when it is limited.

THE TREATMENT OF RHEUMATOID ARTHRITIS.

In an analysis of one hundred cases of arthritis, BRABAZON describes his treatment in the *British Medical Journal* of March 21, 1896. He first states that when the cause is unknown, treatment must needs be somewhat empirical. In his own practice he has found the combination of iron and arsenic the most effective treatment, particularly in the early stages. In a general way, for the purpose of relieving pain, particularly at night so as to procure sleep, the best local application is belladonna dissolved in glycerin. Many and various symptoms must be treated as they arise. Especially is good nutritious diet and plenty of it necessary; cod-liver oil with a good extract of malt is useful; and thermal mineral baths carefully applied on the Aix-les-Bains principle, with massage, ought to be used. Sometimes electricity applied in the continuous current he has known to be of great use and to cause wonderful improvement, but the cases must be carefully selected and vigilantly watched.

He mentions that in some few cases he has with considerable success forcibly straightened the anchylosed knee-joint or joints under anesthetic influence so as to enable the patient to get about on crutches or walk with a stick, which is a great boon, but the condition and strength of the patient must be carefully considered before attempting to risk.

PRELIMINARY NOTE ON THE ACTIVE SUBSTANCE IN THE THYROID.

In the *British Medical Journal* of March 21, 1896, HUTCHINSON tells us that papers

have recently appeared by Baumann, by Fraenkel, and by Drechsel, each of whom claims to have discovered the active ingredient of the thyroid gland. Baumann's substance was obtained by boiling entire thyroids with sulphuric acid, the residue being an amorphous substance containing iodine, from which he was further able to extract a compound, to which he has given the name thyriodin, and which he says he has found to be clinically active. The bodies isolated by Fraenkel and by Drechsel are very different in their nature; they are contained in the proteid-free watery extract of thyroids, and are stated to be crystalline substances. Their discoverers assert that they are active in animals, but have advanced no definite proof of clinical activity.

The time, therefore, seems ripe for the publication, in at least a preliminary form, of the results of certain observations which the writer has been carrying out during the last few months as to the effects of the clinical administration of the different ingredients of the thyroid. As idiosyncrasy plays a large part in these effects, he began always by estimating the reaction of the patient to a preparation of known activity—ordinary thyroid tabloids being the preparation employed. This having been ascertained, he compared with it the results of the administration of an isolated ingredient of the gland. The product of a mass of sheep's thyroids was first divided into proteids and proteid-free watery extract. The proteids were found to be active. These proteids are practically only two in number—a nucleo albumin and the colloid matter. The former was inactive, the latter active.

The proteid-free watery extract was then concentrated. It would contain the bodies of Fraenkel and of Drechsel. It was found even in very large doses to produce no effect on a patient who had reacted distinctly to thyroid tabloids and to the isolated colloid matter.

The colloid matter is, therefore, the active ingredient of the thyroid. He has isolated it in a state of purity. At present he mentions among other peculiarities that it contains a considerable quantity of iodine in organic combination, and he has succeeded in splitting off from it a body apparently identical with that obtained by Baumann from the entire gland. If his substance be really active, it would indicate that the colloid matter owes its activity to the presence in it of an organic compound of iodine.

The above statements are founded on observations conducted on normal subjects and on two cases of myxedema, the latter, however, being by no means marked examples of that disease. Full clinical details of these cases, along with charts showing the effect upon pulse, temperature and body-weight of the administration of pure colloid matter, he hopes to publish in conjunction with a detailed consideration of the chemistry of the thyroid at a later date.

The object of the present communication is to encourage those who may happen to have under observation cases of well marked myxedema or of hitherto untreated cretinism, to try in such the effects of the administration of the colloid matter. It is only by the results in such cases that the activity of the substance can be permanently established.

ICHTHYOL AS A THERAPEUTIC AGENT IN THE TREATMENT OF DISEASES OF THE UTERINE ADNEXA.

Some four years ago, BELL, of Glasgow, read a paper before the British Gynecological Society upon the therapeutic effects of ichthyol in diseases of the uterine appendages. His results had been so eminently satisfactory that he was encouraged to employ the treatment on a very much larger scale than he had previously had the opportunity of doing. Formerly it was his almost uniform custom, when patients suffering from diseases of the tubes or ovaries presented themselves, to advise operation for their removal; this he did under the impression that nothing short of operation could possibly remove the diseased condition, and it was his good fortune never to have had a fatal result after oöphorectomy. When he published the results which followed the employment of ichthyol tampons in salpingitis, oöphoritis, hematoma, and pelvic cellulitis, several questions were asked with reference to the unfavorable effects that such a treatment produced on the neighboring organs, especially the bladder. In the *Edinburgh Medical Journal* for April, 1896, the author states that ichthyol in a very small percentage of cases does produce unpleasant bladder symptoms, but these are so infinitesimal and can be so easily modified that he has no hesitation in saying that they do not militate in the slightest degree against the incalculable beneficial effects which result from the employment of this agent; and perhaps the most complete evidence in support of this statement may be

adduced from the fact that although at the present day he is seeing probably three or four times as many cases of pelvic disease as he did at the time referred to in his previous paper, his operations have fallen off in an inverse ratio. To him the effects of ichthyol in the treatment of these at one time intractable diseases are perfectly marvellous; were he to give instances of a very small percentage of the number of cases which he has seen beneficially affected and cured by the simple method of applying ichthyol tampons, he feels assured that operations of the serious nature necessary for the removal of diseased appendages would rapidly decrease. A woman undergoing such an operation cannot possibly be considered completely convalescent under a period of two years, and it cannot be gainsaid that this fact alone, discounting altogether the dangers that the operation necessarily involves, adds very much to the responsibility which the surgeon assumes.

The result of careful observation has led the writer to the conclusion that very rarely indeed, if ever, do the tubes or ovaries become diseased independently of some pre-existent disease or lesion in the uterus or cervix; and as these uterine or cervical lesions arise from so many different causes, it becomes imperative to glance at the etiology of the various pelvic disorders which are daily coming under observation, seeing that the efficacy of the ichthyol applications must be very much handicapped, if not altogether destroyed, by failure to deal appropriately with the primary disease.

The author refers only to diseases which are septic or inflammatory in their nature; he makes the reservation that cystic, malignant, fibroid and tuberculous affections may be excluded from the category of ovarian diseases dependent upon a primary uterine origin and amenable to ichthyol applications. It is rarely, indeed, that we find salpingitis and its sequelæ without a pre-existing endometritis, and this again is dependent upon so many pathogenic sources that it would be quite foreign to the subject to trace its etiology throughout. One powerful factor, however, must not be overlooked, as it has an important bearing upon the causation of oöphoritis, as well as being an invariable precursor of endometritis. We refer to laceration of the cervix, in which case it will invariably be ascertained that the affected ovary is upon the same side as the laceration. It therefore becomes a necessity that, simultaneously with the application of ichthyol, this lesion be attended to. If, however, the fissure of the cervix has been in existence for any considerable period, it may prove a difficult matter to deal with it before the diseased condition of the endometrium has been at least partially rectified, and the thickening of the cervix resulting from this reduced so as to bring it into a favorable condition for trachelorrhaphy. So far as his experience teaches, it is not necessary to repair the cervix to insure recovery of the endometrium; but the chances are that the recovery will not be permanent if the cervical lesion is permitted to continue, and certainly the ovary will not have nearly such a good chance if trachelorrhaphy is not resorted to.

Few will differ from the writer in the conclusion that salpingitis with its consequent evils almost invariably results from the inflammatory condition in endometritis spreading by continuity of tissue, and also that in many instances the ovaries become affected secondarily to the tubal disease. This infection, as pointed out in a previous paper, is probably communicated through the lymphatic system; it stands to reason, therefore, that in treating inflammatory conditions of the ovaries and tubes it is absolutely necessary to remove the primary morbid conditions which have given rise to the secondary affections, in the manner indicated.

Two marked cases will suffice to indicate the line of treatment which the author has found most beneficial, as both of the ladies came to him from England for treatment, and in both instances removal of the ovaries had been recommended by men whose reputation is of the highest order. Both patients were married and had borne children; the one had been an invalid for eight years, and the other for over six, and during these periods both had been sterile. One ovary in each case was considerably enlarged and exceedingly tender, while the other was diseased to a less marked degree. In both instances endometritis with considerable hyperplasia existed, the general health was very much reduced, and great pain on locomotion was experienced. He commenced the treatment by curetting, employing his dredge curette, and afterwards applied iodized phenol once a week to the whole of the endometrium, while a tampon saturated with ichthyol was introduced bi-weekly. This treatment was kept up for about three months in each case, a gradual improvement in health and relief of the local symptons being the result. One of these patients (the younger of the two)

became pregnant within a year afterwards, and was delivered of a healthy child at the full term. Both are at present in the enjoyment of good health.

In these two particular instances there was no cervical lesion, but a history of subinvolution, which was evidently the *casus morbi*.

In another case, where gonorrheal infection contracted shortly after marriage was the *origo mali*, sterility had existed for twelve years, and both tubes were diseased. Curetting and the bi-weekly application of iodized phenol, followed each time by the introduction of a glycerin-and-alum tampon, was sufficient to restore the integrity of the uterus and tubes after a prolonged course of treatment, but the writer is convinced that had the therapeutic effects of ichthyol been understood at that time the convalescence would not have been so protracted. As it was, however, when the morbid condition had disappeared a child-bearing epoch was established and continued for some years.

This case is quoted simply to show how important it is to take measures to remove the primary disease or lesion simultaneously with the treatment of the secondary, and this is most emphatically the case where laceration of the cervix coexists. To his mind, therefore, if we make it our primary object to treat those affections of the uterus which are within our reach, and succeed in restoring the organ to a healthy condition, we have a most reliable and almost uniformly potent therapeutic agent in ichthyol where inflammatory conditions of the uterine appendages coexist.

TREATMENT OF AURAL POLYPI.

WILKIN tells us that when we have an aural polyp to deal with, the only good treatment is removal. This may be done either by ring-knives, forceps, or snare. For the sort of instrument to be used, the operator must be guided by three things: (1) the size of the growth to be removed, (2) its position, (3) and the operator's custom. In very large as in very small polypi, the forceps is the best instrument; for medium-sized growths some form of snare may be used; for mere granulation tissue, which resists medical treatment, a ring-knife may be used, especially when the tissue is on the lateral wall of the meatus.

Supposing a snare be chosen, the next point is to decide on the nature of the wire. Piano wire, as used with the nasal snare, is, of course, on account of its spring, undesirable. Silver or iron wires may, however, be used, and meet all the requirements; both are sufficiently strong to detach the polyp from its point of origin, and are flexible without spring. The strength required is not very great, so that the finest wire may safely be used in iron; silver is preferable as a rule, though when a very fine thread is required it is not reliable. It may be thought that with cocaine the spring of piano wire would not matter, but, unfortunately, when a polyp is present, cocaine cannot satisfactorily be applied to the external auditory canal. If you can make out the attachment of the polyp with a probe, do so, but in many cases this is almost impossible. In such cases the best way to use the snare is to pass the loop over and round, and the barrel under the growth, carrying the point as near to the base as possible. Then tighten the loop firmly and steadily until the polyp is completely cut through. As a rule the growth comes from the meatus with the snare when withdrawn, but at times, especially with small polypi, it remains in the meatus. It can, however, be easily removed with the syringe.

For arresting hemorrhage, which is generally very free, gentle syringing with hot water usually succeeds; or the insufflation of finely powdered alum, which has the double effect of arresting the bleeding and shriveling up the base, may be tried. Witch-hazel extract is a useful styptic to have on hand for these cases. After the ear has been carefully syringed out, and the bleeding stopped, the operator should always examine again, and, if need be, a second operation may be done at once. For after-treatment, a solution of boric acid in rectified spirit and water may be used, beginning with half and half, and gradually increasing the proportion of the spirit. Alum may also be used, and is said to be very good. The ear must be syringed out at least once a day with some antiseptic lotion.

For local application it will be generally found necessary to use either chromic acid, solid nitrate of silver, or the fine cautery point. Should the pain be very great after the operation, douching with hot water or leeching in front of the tragus gives relief. Should removal be objected to, caustics or astringents have been recommended in one form or another—nitrate of silver, solid or in strong solution, sulphate or acetate of zinc, perchloride of iron, acetate of lead, creosote, nitric acid, sulphuric acid, lime-water, and

sulphate of copper. Toynbee recommends a mixture of quicklime and caustic potash, to which a little sulphate of iron is added, to prevent rapid deliquescence by which the healthy parts would also be attacked. Chromic acid, recommended by Seely in 1872, is also one of the most effective caustics; a crystal is to be taken up on the moistened end of a probe and applied to the growth, the process being repeated after the eschar formed has separated. The action of this acid is more energetic than that of nitrate of silver, but it sometimes causes inflammation of the canal, even when applied most carefully. Politzer recommends perchloride of iron, in crystal or solution: a piece of cotton wool is to be dipped into the solution and applied to the growth, or a crystal carried to it by means of a probe. Gruber does not speak favorably of this, or the alcohol treatment, praised also by Politzer. The translators of Gruber's work into English, however, have found this latter treatment useful when operative treatment is impossible. At the same time, the following significant remark was made: "The method is naturally only applicable in the case of such flabby polpyi (granulations) not associated with bone disease." Lactic acid (fifteen- to twenty-per-cent. solution) has been recommended in cases of polypoid proliferation by Victor Lange. He has given the opinion of others on the treatment of aural polypi without removal, because there may arise circumstances which absolutely preclude operative interference; but, as a rule, to allow an aural polyp to remain in the ear is, for the reasons given, decidedly bad surgery.

The remaining cases of aural polypi may be generally referred to two sorts of malignant growths—sarcomata and epitheliomata.

Sarcomata are said to be primarily developed in the auditory canal, and rapidly extend to the neighboring structures. Of course they may equally readily involve the ear from the neighboring parts, but in such cases they would hardly come under the heading of aural polypi, nor would they probably come under the notice of the aural surgeon. The fibro-sarcomata are said to remain for years without causing any particular symptoms. On the other hand, the small round-celled sarcomata, growing very rapidly, set up a great amount of pain, and are generally, if not always, associated with a foul-smelling discharge, more or less sanguineous. The surrounding parts are rapidly implicated. If seen and recognized early enough, it might be possible to remove the growth with the knife. The lack of recognition appears to be due to the fact that growths removed from the ear were, at least formerly, not thought worthy of microscopical examination; and, secondly, people suffering from aural disease frequently seem to think that nothing can be done for it, and leave the trouble to treat itself until some more offensive symptom than usual drives them to the medical man for relief. Epitheliomata are said to occur after prolonged suppurative otitis. The commencement differs in no way here from that in other parts. Pain is not such a constant symptom as in the rapidly growing forms of sarcoma.

A case of malignant growth of the left ear, which came under the writer's care some time ago, illustrates strikingly the necessity for microscopical examination in all cases of growths removed from the ear. When he saw the woman she was suffering great pain in the left ear, which was said to have come on after the removal of a growth a few weeks previously at another hospital. The auricle was standing out from the head, and there was general tenderness around it, a soft brawny swelling in front, and a greatly enlarged mastoid process behind, over which the skin was adherent and discolored. The external meatus was almost completely closed by an edematous-looking swelling of the walls of the canal. Some of this tissue was removed, and examined microscopically. The result pronounced the growth a squamous-celled epithelioma. Clinically the growth had appeared much more like a sarcoma. The woman said that about a year previously she had been knocked down by a cab, when the whole of her left side had been severely bruised, two ribs broken, and the left ear and left side of her head bruised and cut. Some three months after this she was compelled to go to a hospital for treatment, on account of discharge from the left ear, with deafness and tinnitus. For some months she remained an out-patient of the aural department, after which, not having received much benefit, as she thought, for a time she appears to have given up treatment. Then she went to another hospital, where a growth was removed from the ear. This gave her so much pain that she would not return, and a few weeks later she was sent to the author. Had the growth been "microscoped" at once, the patient would not have been sent away. It is quite possible to get a fair idea of the specimen structurally from a fresh section

made at the time of removal, and in the case of out-patients every large hospital should do this. When he received the microscopical report, and thus learned the nature of the growth he had to deal with, he thought of Von Mosetig's treatment of malignant growths, and seeing the evident signs of mastoid involvement, together with the anterior growth, he determined to try it, with the consent of the patient. Professor Von Mosetig, of Vienna, brought before the Vienna physicians several cases of malignant and benign growths which he had treated by parenchymatous injections of methyl violet—or, as it is now called, pyoktanin; his report on this was so favorable that, seeing how hopeless his own case was for a surgical treatment, the writer determined to give it a trial.

Beginning with a solution of 1:500, he injected in different parts of the growth ten to twenty minims in all each day for ten days; then he raised the strength to 1:300, and later to 1:100. The action of the drug was quickly visible; the growth contracted and became very hard, and after about a fortnight an apparently fluctuating mass gradually replaced the harder growth. There was no rise in temperature. On opening the soft mass, he found a gelatinous violet substance round the hardened growth. This process of contraction went on whenever the pyoktanin was used, and although the growth had advanced too deeply for hope of saving the patient, the action was very satisfactory. The drug acted remarkably well in relieving the pain; the urine was constantly examined to see whether it was affecting the system generally, and especially the kidneys. Neither albumin nor sugar was present; the quantity of urea passed remained about the same. The urine, from being very foul-smelling when the patient was first admitted into the hospital, became quite sweet while the injections were used.

After death, which took place sixty-two days after the commencement of the treatment, the growth in front of the ear was examined microscopically; the report said that no epithelial cells were present, and that the thickening was due to fibrous tissue. As this was the only part that could be properly attacked, the result was extremely good. The external meatus and the mastoid process formed one large cavity, caused by the action of the drug. A very thin plate of bone existed between the dura mater and the upper part of the cavity.—*Clinical Journal*, March 25, 1896.

ERUPTIONS SIMULATING SCARLATINA.

An editorial article in the *Boston Medical and Surgical Journal* of April 2, 1896, points out that the difficulty of distinguishing an erythema due to scarlatina from one arising from a variety of causes is often so great as to emphasize the fact that no disease should be studied from a single point of view, nor should any one symptom be exclusively relied on. At the outset we are not acquainted with the course that the affection may pursue, nor with the important symptoms that may arise in connection with the eruption.

Griffith discusses the question in an interesting paper, illustrated by cases that occurred in his own practice. He speaks first of an erythematous eruption with all the characteristics of that of scarlatina, which occurs in connection with tonsillitis, and rapidly disappears. In some instances this is associated with the cardiac and articular manifestations of rheumatism. The affection that has been called surgical scarlatina is often puzzling, and the authorities are not as yet agreed as to its etiology. Some consider that it is really a scarlatina occurring in a surgical case, others that it is a manifestation of a septic condition. There can be no question that in many of the cases scarlatina is not present, although an eruption that cannot be differentiated from that seen in scarlet fever is met with. The diagnosis in these cases is one of the utmost importance, especially in a hospital, where the danger to others has to be considered. There is also a scarlatiniform eruption that occurs during the puerperium which is probably of the same origin as the surgical variety.

A scarlatiniform eruption has been described as occurring after the administration of enemata. It occurs also in the course of various diseases, such as gonorrhea and typhoid fever, and in the prodromal stage of smallpox, and is exceptionally present in the prodromal stage of varicella also. Moreover, many cases have been reported where scarlet fever and varicella existed at the same time in one person. It is probable that in a good many of the above cases the erythema was not of scarlatinal origin.

Diphtheria may sometimes exhibit an erythematous eruption of the scarlatiniform type. The diagnosis is made still more difficult by the fact that in very severe cases of scarlet fever the eruption may be very faint while the throat symptoms are very pronounced, and also by the fact that diphtheria often occurs in combination with scarlatina. Some-

times a scarlatinal rash may be of the macular type seen in measles, and it may be difficult to distinguish between the two affections. For those who believe in the existence of rubella or rotheln as a distinct disease, many cases may be found where the eruption simulates that of scarlatina very closely.

It is well known that various drugs may cause scarlatiniform eruptions, and, as many of these are the drugs commonly used, a further source of perplexity is introduced. Quinine may produce an eruption easily mistaken for that of scarlatina, and so may antipyrin. Copaiba, although producing as a rule a bright red macular type of eruption, seated about the joints, may some imes bring out a scarlatiniform rash. Antitoxin is also to be included in this class, as well as belladonna and numerous other drugs, especially morphine, mercury, and chloral. In a certain class of cases there are recurrences of a widespread scarlatiniform eruption, followed by desquamation, which has been called erythema scarlatiniforme.

With regard to diagnosis, the difficulty that is often experienced may be inferred from the foregoing. The peculiar peeling is of importance as favoring the probability of scarlet fever, yet this guide is not present at the outset and is by no means infallible. The absence of peeling would make the diagnosis of scarlatina rather improbable, but its presence would by no means be certain proof of the existence of scarlet fever. The limitation of the eruption to certain parts of the body is against the diagnosis of scarlatina in a general way, yet malignant cases of this disease occur where there is little if any eruption. The eruptions that simulate scarlatina are more likely to be evanescent, yet this feature is not a constant one.

The importance of deciding at the earliest possible moment whether or not we are dealing with a case of scarlet fever, need not be dwelt upon. Unfortunately, as has been shown in this paper, it is often very difficult to do so, sometimes impossible. The desquamative scarlatiniform erythemata produced by various causes copy an eruption from scarlet fever so closely that at the outsent there is no way of deciding the question definitely. Undoubtedly a great many cases of scarlatiniform erythema, either of the desquamative recurrent variety of the French writers, or due to drugs and the other causes that have been mentioned, are continually diagnosticated as scarlet fever, and so treated from start to finish. Fortunately this error is a safe one to make. The responsibility of the physician who would eliminate scarlet fever in a somewhat doubtful case is very great, and it is wiser to treat the case with all the precautions that would be taken if the diagnosis of scarlet fever were confirmed. Besnier considers, and our own experience leads us to agree with him, that the early desquamation in a scarlatiniform erythema, seen sometimes by the second or third day, is one of the most valuable means of differentiation from scarlet fever, and that furrowing and shedding of the nails and loss of hair are so infrequent in the latter affection that these symptoms may be taken as strong evidence that the eruption is not a scarlatiniform erythema. After all is said, many cases must remain in doubt, even to the end of their course.

ON CHOLAGOGUES.

Dr. E. Stadelmann (*Berliner Klin. Wochenschrift*, March 2 and 9, 1896) refers to the article of Rosenberg upon the treatment of cholelithiasis with olive oil, and says that in the treatment of this and similar diseases he does not think much reliance can be placed upon cholagogues. They have been employed especially in two diseases, gall-stones and so-called catarrhal jaundice. In the first case it is sought to sweep out the stones by the increased pressure arising from increased quantity of bile, and in the second to get rid of the plug which closes the ductus choledochus.

In studying the literature of this subject one is struck with the fact that a great many drugs are said to have cholagogue properties, and that different writers have very divergent opinions about the value of each. Stadelmann mentions a number of drugs of this class; one man will say it is active, another that it is entirely inactive. He thinks the reason for this wide divergence of opinion is that under normal conditions the quantity of bile poured out varies greatly from hour to hour. Another reason is the different methods employed by different authors. He found the total quantity of bile secreted from one day to another to vary from twenty to thirty per cent., and in two-hour intervals from sixty to one hundred per cent. Stadelmann's experiments were on normal and properly nourished animals.

The wide variations found in the quantity of bile secreted show that it is extremely difficult to tell how much is to be attributed to

the action of any drug that may be given. Hommarsten reports one case in which there was artificial fistula on account of cicatricial stenosis of the common duct. The variations in quantity of bile were between two hundred and six hundred cubic centimeters in twenty-four hours. The patient died of tuberculosis one month after the operation. In a case of Körte's in which the common duct was open and bile therefrom passed into the bowel, the quantities of bile observed varied between 200 and 1200 cubic centimeters in twenty-four hours.

Stadelmann gives the results of his own experiments, omitting for the sake of brevity four or five hundred tables. He finds that large quantities of water (500 to 2500 cubic centimeters), whether given by the mouth or rectum, have no influence upon the secretion of bile. The liver, therefore, is not comparable in this respect to the kidneys, but to other glandular organs, salivary glands, and pancreas.

The other substances investigated by Stadelmann are grouped in four categories:

1. Those which have no cholagogue action: (*a*) Alkaline salts, such as sodium bicarbonate, sodium chloride, sodium sulphate, artificial Carlsbad salt, sodium phosphate, potassium acetate, magnesium sulphate, potassium bicarbonate, potassium citrate, potassium tartrate, potassium sulphate. These were all given in doses of eight grains to six and a half drachms, and no cholagogue action could be detected. The most of them in large doses distinctly diminished the secretion of bile. (*b*) Purgatives and drastics: gamboge, gamboge-soda, the tubers as well as the resins of jalap, convolvulin, convolvulinate of soda, jalapin, jalapinate of soda, aloes, rhubarb, cathartinic acid, podophyllin, podophyllotoxin, resin of scammony, different soaps, senna. Calomel showed on the whole no cholagogue action—the quantity of bile being now increased, now unchanged, and now diminished — therefore nothing more than normal variations. Moreover, after profuse diarrhea the secretion of bile was not observed to be lessened, whereas in moderate purgative action this was pronounced. (*c*) Various remedies: Alcohol and olive oil resulted in a diminution rather than an increase.

2. Remedies which sensibly lessen the secretion of bile. To this group belong pilocarpine and atropine.

3. Remedies which possess a doubtful cholagogue action. Here belong antipyrin, antifebrin, caffeine, sodium benzoate of caffeine, diuretin, santonin, Durand's remedy (of which oil of turpentine seems to be the active constituent, while ether is inactive upon the secretion of bile). In general, the cholagogue action of all these remedies, if it exists, is slight.

4. Remedies which have a pronounced cholagogue action: (*a*) Salicylic acid in moderate doses. In Stadelmann's experiments on dogs (about twenty kilos in weight), after 1½ to 2½ grammes were given, no decided cholagogue action was observed, and 7½ grammes produced a severe intoxication with severe hemoglobinuria; but three grammes produced a very marked increase in the secretion of bile (about sixty to seventy per cent.), lasting about twenty-four hours, then strongly pronounced salicylic-acid poisoning, great unrest and dyspnea; so that he does not hesitate to pronounce sodium salicylate a powerful cholagogue, although not always uniformly strong in its action.

But by far the surest and most powerful cholagogue we possess is bile itself, and of its constituents the bile salts. Stadelmann says he has studied their activity most accurately and in a large series of individual experiments. He finds that bile and bile acids from the same animal acts less than those from a different animal. In dogs taurocholic acid is inferior in cholagogue action to glycocholic acid. The bile salts were given by the mouth in solution, and never exercised the least injurious action upon the digestion of the animals experimented on; the appetite was not lessened, and the animals behaved entirely normally, although they received almost daily, for months, more or less large quantities of bile salts.

The action of bile acids upon the bile is very significant. The administration of four or five grammes results occasionally in an increase of bile to nearly 100 per cent., the action continuing about twenty-four hours. On further increase (to twice five grammes in twelve hours) the dose is borne without injury, and Stadelmann has seen an increase in the quantity of bile up to 120 per cent. The greater the dose the greater the secretion, is the law, both liquid and solid constituents being increased. The greatest part of the bile acid administered is again excreted through the liver, both the bile acids proper of the animal and the bile acids of a different animal. After the use of salicylate of soda, on the other hand, only the watery portions of the bile are increased, not the bile acids.

Stadelmann discusses then at considerable length the possible therapeutic value of cholagogues in cholelithiasis and catarrhal jaundice. As regards cholelithiasis, he says there are two possibilities: first, that in which the common duct is not completely closed by the stone, either because the latter is too small or because from its irregular shape there are crevices left through which the bile may still leak. If the stone is still small, he believes it possible by increase in the secretion of bile to get rid of it; but if it is large and jammed in, it cannot be got rid of by increased pressure of the bile. Even granting that the secretion of bile be raised to 1000 cubic centimeters in twenty-four hours, this would be insufficient to shove the stone forward while the bile could by drops find its way around it. Nor should we be any better off in the second possibility, that in which the stone completely blocks the duct; for we know by physiological experiments that when the pressure exceeds 120 to 220 Mm., there is a reabsorption of bile and an increase in the jaundice. Hence Stadelmann thinks it no longer tenable that we can overcome obstructions through cholagogues. Their value may be through the exercise of a solvent action upon the stones. This is indicated by the unquestioned clinical value of the alkaline salts. Abnormal bile is acid; the normal is alkaline.

While he does not think the bile acids do much harm to the economy, he descountenances their use in persistent severe jaundice.

THE MECHANICAL TREATMENT OF TABES.

BELUGOU (*Arch. Gén. de Méd.*, February, 1896) passes in review all the various methods of treating tabes by suspension and other mechanical methods, including nerve-stretching. He finds that neither those who condemn suspension *in toto*, nor those who believe in its efficacy, are altogether in the right; for this method, though by no means curative in any sense, is certainly of benefit in the treatment of some symptoms in a few cases. Thus the gait, motor incoördination, to a certain extent Romberg's sign, and vesical paresis, are often benefited by suspension. The author finds that rapid cases, exacerbations, laryngeal crises, advanced age, anemia, edema, obesity, and lesions of the cardio-vascular system are all contra-indications.

The most important portion of the paper is his description of compensatory gymnastics, first introduced by Fraenkel. This method consists in the execution of certain defined movements directed towards the special functions affected. These movements are divided into three classes: No. 1 consists simply of flexion, extension, abduction; No. 2, of simple coördinated movements in a definite direction against resistance; No. 3, of combined coördinate movements. First, the garter is applied round one leg at the level of the knee, and a small piece of wood is fixed thereby to the front of the patella. The patient raises the other leg, then, flexing it, brings it rapidly down so as to touch this piece of wood with the heel. Another movement is obtained by holding a stick just above the middle of the legs; the patient passes one foot alternately over the stick and back again without touching it. A modification of this is the hoop through which one foot is passed without touching it; the advantage of this is that it can be held in different positions so as to combine the action of various muscles.

For the upper limbs many of the same exercises are employed, but in the third class a special series is used necessitating delicate coördination. One of these consists in suspending balls of different sizes in a frame at different heights; these are put in movement, and the patient is obliged to seize each moving ball.

From all these exercises the author has obtained some very satisfactory results. He also suggests making the patient walk between parallel bars to reinstruct him, as it were, to keep his balance. At the same time he points out that it is useless to expect too much from any mechanical method of treatment, and that cases of slow evolution, very marked sensory derangement, and arthropathic complications are least likely to give any results.—*British Medical Journal*, March 28, 1896.

SOME EXPERIMENTS ON THE ACTION OF GUAIAC.

Of late there has been a tendency to attribute to this drug a greater therapeutic value, as a laxative, than it really possesses. COMBERNALE (*Rev. Inter. de Méd. et de Chir.*, Feb. 25, 1896) has shown by experimental research, and has also observed in clinical medicine, that the drug possesses none of the properties which are essential to its use as a laxative: the dose required to produce the desired effect is too large to be safe or agreeable, and the action of the drug in this direction altogether too uncertain. He believes

this drug should be consigned to the oblivion from which some authors have recently tried to recall it.

THE COMBINATION OF CERTAIN ANTIPYRETICS AND ANALGESICS IN INTERNAL MEDICINE AND OPHTHALMOLOGY.

The results obtained by Berger, by combining certain antipyretic and analgesic agents in such a manner as to lessen their harmful action, induced VOGT (*Rev. de Térap. Méd.-Chir.*, Feb. 15, 1896) to continue his therapeutic studies in clinical medicine, with the result that he strongly recommends the following combination:

℞ Antipyrin, gr. xxxvij;
Phenacetin, gr. xxv;
Acetanilid, gr. viij.
M. Ft. in pulv. no. viii.

The results obtained by the use of the powders were: A marked antipyretic action, three powders daily being sufficient to combat the hectic fever of pulmonary phthisis, and with the advantage that the medication could be continued for weeks, and even months, without any unfavorable symptoms. The reduction of temperature was succeeded by a return of the appetite. The only unpleasant complications noted were, in one case, a slight urticaria, and in one case of advanced phthisis a tendency to collapse.

A very characteristic sensation of well-being follows the administration of these powders, especially noteworthy in cases of influenza where the attack has been sudden in its onset, three or four powders being sufficient to produce a pleasant sensation and dispel the neuralgias, inducing finally a calm sleep. For example, in a case of intense supra-orbital neuralgia four powders per diem for two days were sufficient to entirely cure the patient.

In two cases of acute lymphangitis the pain and tension subsided rapidly after the use of three powders per day. As marked an effect has been observed in a case of acute pleurisy with effusion. The absence of toxicity produces a feeling of well-being that is very marked and was especially noted in a case of recurrent erysipelas that had been previously treated by sulphate of quinine.

The analgesic action is well marked. In migraine two powders, given at intervals of one-half hour to two hours, were sufficient to dispel the crises, and the smallness of the dose prevented it from increasing the tendency to nausea and vomiting.

In gastric crises, relief has been secured each time by the use of two powders; while equally good results have been secured in various forms of neuralgia (occipital, brachial plexus, etc.).

Rheumatic affections are also amenable to treatment by this combination — muscular rheumatism, lumbago, torticollis. Its antirheumatic action is, however, inferior to that of salicylate of soda as a curative agent.

It is of great value in inflammations of the eye.

A marked hypnotic action is obtained by one powder given at bedtime.

PHARMACOLOGY OF THE THYROID GLAND.

The attention attracted by the successful use of thyroid-feeding in the treatment of myxedema has led many investigators to study the best mode of administration. The results of these investigations are given by YVON (*Arch. de Neurologie*, No. 3, 1896) as follows:

The implanting of a portion of the thyroid gland beneath the skin of the patient was but an experimental stage of this method of treatment, which has now been superseded by more convenient methods.

The hypodermic injection of thyroid extract has been and is still employed, but is open to objection on the grounds that it requires the constant attendance of the physician, that the preparations are not of uniform strength, and that they are liable to produce suppuration if there is any defect in the antisepsis.

The best method of preparation is that published by Roux, and is as follows: The gland should be removed as quickly as possible after the animal is killed. After careful antiseptic preparation of the field of operation, the glands should be dissected out with aseptic instruments, and after all fat and connective tissue has been removed they should be put into a sterilized, covered glass dish which has been previously weighed. When a sufficient number have been secured, they are taken to the laboratory and weighed. They are then cut into small pieces with aseptic scissors; double their weight is now added of a mixture containing two parts of glycerin and one part of sterilized water. After standing in this for twenty-four hours, they are poured into a suitable bottle, which is stoppered with cotton and sterilized. The extract thus obtained is poured into small sterilized

bottles and will keep for a considerable time; it is less limpid than that obtained by Arsonval's method, but is more active.

The strength of various extracts is not uniform, and consequently no definite dose can be given for all of them. Adopting as a standard that containing twenty per cent. of the thyroid gland, the dose should be one drachm per week. This dose, however, is arbitrary and in active treatment the injection may be made every two days, while in prophylactic treatment an injection once a week, or even once in two weeks, is sufficient.

The thyroid glands themselves have been administered in various forms. The unit of measure is one lobe—that is, one-half of the entire gland—and varies, with the size of the gland, from fifteen to eighteen grains. The gland may be administered chopped finely and cooked, or it may be macerated after chopping in a small quantity of water, and the extract thus obtained given in beef-tea without cooking. Others advise broiling slightly, claiming that the natural juices of the thyroid are less altered when administered in this manner.

Although the administration of the glands themselves has many advantages, it is sometimes difficult to obtain fresh glands, and occasionally patients object to taking them. The following more or less stable preparations have been employed to overcome these difficulties: A powder has been made by separating the gland from all foreign tissues, and, after chopping finely, desiccating at a low temperature to avoid cooking. The objection to this method is that the powder has an unpleasant odor—which, however, has been disguised by mixing with cocao and administering in pill form; eight pills, of five-sixths of a grain each, are given daily. This amount is nearly equivalent to one lobe of the thyroid. The powder may also be dispensed in tablets or enclosed in gelatin capsules.

Various forms of glycerin and aqueous extracts have been devised by various authors. Murray cut the gland into small pieces, and macerated in an equal amount of glycerin, the extract being obtained by pressure and filtration and administered in drop doses, the dose being four times that employed in hypodermic medication. Catillon employed an aqueous extract made with distilled water and evaporated at a low temperature under all aseptic precautions. The extract is of a clear blood-red color, while the powder is gray.

The fresh gland furnishes twenty per cent. of extract or twenty-seven to twenty-eight per cent. of dry powder. The powder is employed in tablet form in a dose of five-sixths of a grain. Vigier obtained a powder in the following manner: After an aseptic removal of the glands, and removing all foreign tissues, he pulpified and mixed them with the biborate of soda and powdered charcoal. In this manner he obtained a dry powder, which he put in capsules, each containing 1⅔ grains of the extract. This preparation, he claims, having never been exposed to heat, is not altered, and keeps for a longer time.

Yvon himself employs the following method: Immediately after the death of the animal the gland is excised under all aseptic precautions, all extraneous tissues are removed, and the gland is powdered with boric acid. When a sufficient number have been prepared they are taken to the laboratory, cut up and triturated with sugar and an additional amount of boric acid. The sugar absorbs the juices, and a mixture is formed almost free from liquid. This mixture is desiccated at a temperature of 86° C., and divided into small masses, which are coated with gelatin, each mass containing about 1⅔ grains.

Each lobe of the thyroid produces about 26.8 per cent. of the powder. Three capsules are therefore equivalent to one lobe of the gland, or the therapeutic unit.

Alkaloidal preparations have been made, but their strength is not uniform and their value is doubtful.

THE SERUM TREATMENT OF DIPHTHERIA.

H. F. Filatow (*Russian Archives of Pathology, Medicine, and Bacteriology*, vol. i, Jan. 20, 1896), speaking of the results derived from the serum treatment, refers to the statistics given by him in his Lectures on Infectious Diseases in Children (Moscow, 1895). In more than five thousand cases treated in this way, the mortality was eighteen per cent. In this paper Filatow has collected 832 cases, lately reported by general practitioners from different parts of Russia who have been employing the serum treatment, the mortality being 19.2 per cent. In agreement with the majority of the observers, the author considers it necessary to combine the use of the serum with local treatment, for this diminishes both the duration of the disease and the time during which the patient must be isolated. As regards immunity, although experiments made on animals and some statistics of pre-

ventive inoculation in men during diphtheria epidemics speak in favor of the preventive treatment, the fact must be taken into account that there is an individual immunity to diphtheria, and it cannot be said for certain that without this inoculation the individual would have contracted diphtheria. It has not yet been established that albuminuria occurs more often under this new treatment. If the antitoxin influences the kidneys, it does so only after a lapse of several days. Further experience has shown that the earlier the treatment with antitoxin commences, the less the liability of kidney complications. The albuminuria, therefore, does not afford even the slightest contra-indication to the antitoxin treatment.—*British Medical Journal*, March 21, 1896.

CURETTAGE OF THE UTERUS.

BALLANTYNE, in the *Edinburgh Medical Journal* for April, 1896, after discussing this operation at some length, goes on to say that too great care cannot be taken of all the preparatory arrangements in cases of curetting, and success will reward him who is most particular in these matters.

If it be possible to choose a time, the week following menstruation ought to be fixed upon, and the writer usually curettes the day after the flow has ceased, in order to give the uterine mucosa the longest possible period to revive before the irritation of the next menstrual epoch comes on. The cases in which curettage is employed for post-abortum hemorrhage and sepsis and for post-partum septicemia do not come under the action of this rule.

The patient ought to be kept in bed the day before the operation; the urine should be carefully tested; and some form of opening medicine should be given, followed by an enema on the morning of the day of curetting. The vaginal canal should be douched on the evening preceding the operation, and also in the morning, and special attention should be paid to the thorough cleansing of the mons veneris and external genitals.

The instruments employed will vary with the individual tastes and requirements of the operator; the following are those which the author usually provides: A vaginal speculum (Marion Sims's, or a modification thereof, *e. g.* Auvard's retaining speculum), and one or two copper retractors; two or more strong-toothed volsellæ provided with clips; a set of uterine dilators, preferably Hegar's cones or Auvard's new hollow metal rods; sharp and irrigating curettes, preferably Recamier's double scoop, Thomas's spoon-saw, and Rheinstaedter's flushing curette (curetting forceps and the blunt curette he never uses); a set of three or four uterine sounds, or Playfair's probes armed with cotton wool; a male catheter, No. 10; an intra-uterine douche of an approved pattern; a pair of curved packing forceps; and a sufficient number of pledgets of gauze (instead of sponges), and a long strip of iodoform gauze for packing the uterus, and another for the vagina. There ought also to be ready at hand a bottle of iodized phenol for cauterizing the interior of the uterus, an anesthetic, and antiseptic solutions (*e. g.*, perchloride of mercury, 1:5000). Where possible the instruments ought to be of metal, and should be previously boiled for fifteen minutes in soda solution (one to three per cent.).

The operator ought to take the same personal precautions that he would in cases of abdominal section or hysterectomy. This is a very important matter, especially in the cases in which curettage is performed, notwithstanding the existence of acute or chronic tubal or perimetric conditions. He ought, therefore, to be rigorously careful with regard to the thorough cleansing of his hands, and should wear a waterproof apron and sleeves. His assistant and the nurse ought to be equally careful.

The patient, having been chloroformed, ought to be placed in the lithotomy (dorsal) posture rather than in the left lateral, on a table and not in bed, facing a good light. The field of operation should be protected with sterilized towels, and the hips should be raised by and rest upon a pad of antiseptic cotton covered by mackintosh. The patient may be held in position by assistants, or in default one of the many "crutches" may be used.

Before proceeding to the actual operation, fifteen minutes should be definitely set aside for the thorough cleansing and disinfecting of the external genitals and vagina. The hair ought preferably to be shaven off, and the parts, both vulvar and vaginal, are to be thoroughly scrubbed with soap and water, and thereafter washed with perchloride solution (1:4000). Too much care cannot be taken to insure the intra-vaginal cleansing, and pledgets of gauze (instead of sponges) in sponge-holders may be used to scrub the walls, the fornices, and cervix. The urine should be drawn off before the operation begins.

The Sims speculum is passed, and held in

position by the assistant or nurse; then the operator lays hold of the cervix with two volsellæ, one grasping the anterior, the other the posterior lip. The use of two volsellæ distributes the traction upon the cervix better, and minimizes the risk of laceration of the tissues. The uterus is then to be dragged gently downwards till the cervix is well within the range of sight and touch. Where the uterus is fixed this cannot, of course, be done, and ought not to be attempted; the cervix should then be simply fixed, and the speculum so adjusted as to give the best possible view of the parts without downward displacement. We should never attempt to introduce the curette without seeing the orifice of the cervical canal into which we are causing it to enter.

By means of a careful bimanual examination, ascertain as accurately as possible the exact position and inclination of the uterus, so as to know the direction in which the dilators and curette are to be inserted. Then, having fixed the cervix, begin the dilation. Of course, in post-partum cases this part of the process will very probably be unnecessary. Introduce first one of the smallest sizes of the Hegar dilators, which has been warmed and covered with carbolized vaselin. Begin, in most instances, with a No. 3 or 4, and let it pass in without the use of force, making sure always that it is being passed in the right direction. Leave it *in situ* whilst the next (larger) size is being warmed and greased, then withdraw it and introduce No. 5, and so on till No. 13 or 14 passes in easily. The author has given up entirely the use of metal dilators with separate blades, for he regards them as unavoidably dangerous. The traction exercised upon the anterior and posterior lips of the cervix during dilatation should be made equal, and care should be taken that the teeth of the volsellæ do not protrude into the cervical canal. The rate of progress of the dilatation will vary in different cases according to the amount of resistance offered by the cervical tissues; but from fifteen to twenty minutes ought not to be too long to allow for the completion of this part of the operation.

The canal being now sufficiently open, it is well to dip the forefinger in an antiseptic solution and introduce it into the uterus before passing in the curette. This is an important precautionary measure; if anything is felt in the interior of the uterus it may thus be removed by the finger alone. The curette must then be introduced; it ought to be applied in a systematic fashion, first to the anterior, then to the posterior, and then to the lateral walls of the uterus; finally, the fundus and the upper uterine angles should be scraped. The instrument should be guided in these manipulations by the operator's left hand placed on the patient's abdomen. After each scraping —which is, by the way, accompanied by a creaking or crackling sound, "*le cri uterin*" —we should withdraw the curette and wash off its contents for future microscopic examination into a cup of water placed near at hand. In the next place, the uterine cavity should be flushed out either with an ordinary intra-uterine douche or with a flushing curette. Then iodized phenol is to be applied to the interior of the uterus on armed sounds or probes, care being taken to protect the vaginal walls during the process. By means of a pair of curved dressing-forceps, firmly pack the uterine cavity with a strip of iodoform gauze about two or three feet long and one inch wide. Put a plug of the same gauze in the vaginal canal, and a pad of antiseptic absorbent wool over the vulva, and keep the whole in position with a bandage. The patient is then put back to bed and treated as after any similar operation.

Of course, the operative details will differ slightly with the condition which has constituted the indication; but the line of conduct laid down above is that which will be found most generally useful. Of the technique in some of the rarest indications the author has not thought it necessary to speak.

After the operation the patient is to be kept at rest. The urine may require to be drawn off the same evening; but often this is quite unnecessary. The plug is usually removed on the third or fourth day (and with it the intra-uterine strip of gauze is taken away), and a smaller one put in its place; but in the instances in which curettage has been performed for suppurative conditions the gauze may require to be changed within twelve hours, and twice daily thereafter until it comes away dry. This latter statement applies especially to the post-abortum and post-partum cases. Douching is indicated after the removal of the plug. The patient should be kept in her bed for a week, or for ten to fourteen days in the more serious cases. She ought to rest at the next menstrual epoch, as the flow may then be excessive. When the uterus has been curetted as a measure preliminary to another operation, the second operation may be proceeded with at once, or not till four or five days later.

Marital relations ought not to be resumed until eight weeks after the curetting. By this delay, conception, if it occur, is more likely to lead to a successful gestation. At the same time cases are on record in which impregnation has occurred within a month of the operation. Bossi has found that the new uterine mucosa can grow a decidua twenty-five days after curettage; but it does not at all follow that the decidua thus formed will be satisfactory.

If curettage be carried out in the way above indicated, and especially if rigorous antiseptic precautions be taken during the operation and uterine drainage maintained after it, the risk will be reduced to a minimum, and the chances of complete success in properly chosen cases will be largely increased.

THE TREATMENT OF ALOPECIA.

In the *Journal des Praticiens* of March 28, 1896, BROCQ has a brief article upon this subject. He recommends the employment of the following prescriptions:

℞ Resorcin, 1½ grains;
Hydrochlorate of quinine, 3 grains;
Pure vaselin, 1 ounce.

This is to be applied, covering only a limited area at any one application, to that part of the scalp which is devoid of hair or from which the hair is rapidly falling. If the falling of the hair persists after the employment of this prescription it is well to incorporate with it five to fifteen minims of the tincture of cantharides, or in other cases the following may be used:

℞ Resorcin, 3 grains;
Hydrochlorate of quinine, 5 grains;
Precipitated sulphur, 30 grains;
Pure vaselin, 1 ounce.

Should either of these ointments produce much irritation of the scalp, so that a burning sensation is produced which is too uncomfortable to be borne, it is well to apply after their removal an ointment composed of 20 grains of borax to 100 of vaselin. After the irritation is relieved, more feeble preparations of resorcin and quinine can be employed. One prescription which may be used is composed of:

℞ Salicylic acid, 5 grains;
Resorcin, 3 grains;
Hydrochlorate of quinine, 5 grains;
Precipitated sulphur, 30 grains;
Pure vaselin, 1 ounce.

And if this produces much irritation of the skin, the ointment of vaselin and boric acid already named may be employed, or one composed of vaselin with one or two per cent. of carbolic acid added to it.

Should the falling of the hair be associated with seborrheic eczema, it is often well to employ a mercurial ointment. One of the best of these is an ointment of the yellow oxide of mercury varying in strength from 1 in 25 to 1 in 10, according to the severity of the trouble. This should only be rubbed upon isolated patches at a time. After it has been employed and an alterative effect upon the skin produced, a prescription composed as follows may be used:

℞ Resorcin, 4 grains;
Salicylic acid, 7 grains;
Pure vaselin, 1 ounce.

Should the condition of the scalp be excessively greasy, the ointment which has been previously employed and the natural oil of the skin should be removed by washing the scalp with a weak solution of ammonium or by using Castile soap and warm water. Under no circumstances should the oily preparations be used continuously without the scalp being cleansed every now and then by some such process.

THE ACTION OF THYROID GLAND ON GROWTH AND OBESITY.

BOURNEVILLE (*Progrès Médicale*, Feb. 1, 1896) gives tables showing the action of thyroid gland on growth and obesity. In three cases of myxedematous idiots, aged from fourteen to thirty years, the striking points were a loss of weight and an increase of waist measurement — that is, of growth. It was then tried in three cases of obesity in idiots (two macrocephalic, aged eleven and twenty-eight, and one epileptic aged eleven). Their growth under treatment was proportionally more in four, five, or six months than the average growth of eighteen untreated imbeciles or epileptics during their tenth, eleventh, and twelfth years, which were taken as more nearly approaching normal children to control these experiments. This growth is still more apparent when compared with the condition before the thyroid treatment, when growth was absent or retarded. As regards obesity, two of the idiots lost weight rapidly during treatment, while the third gained during treatment and lost weight rapidly afterwards. Otherwise the rule was that (1) there was a rapid loss of weight during treatment; (2) after a certain time the gland lost its effect and the weight remained sta-

tionary; (3) generally, shortly after the treatment ceased, the weight rose again. Hence the necessity of breaks in the treatment. In the epileptic case the number of fits increased while the gland was being given.

These results agree with those published by Hertoghe regarding the influence of thyroid gland on children whose growth has been retarded by causes other than myxedéma (rickets, albuminuria, debility, etc.).—*British Medical Journal*, March 21, 1896.

ALCOHOL AND DIGESTION.

For several months the *American Journal of the Medical Sciences* has contained a continued article by CHITTENDEN and MENDEL on this topic. In the April issue this is concluded in the following words:

Pure ethyl alcohol, the active agent in all so-called alcoholic liquors, when present in small amount—say one or two per cent. of absolute alcohol, equal approximately to two to four per cent. of proof spirit—has little or no action upon the digestive power of the gastric juice. There is, indeed a slight tendency for such amounts of alcohol to increase somewhat the proteolytic power of the enzyme—in other words, the digestive power on proteid foods may be slightly increased. As the percentage of alcohol is raised, retardation or inhibition of proteolytic action becomes pronounced, although not very marked until the digesting mixture contains five to ten per cent. or more of absolute alcohol. With fifteen to eighteen per cent. of absolute alcohol, digestive action may be reduced one-quarter or even one-third. Especially important is the fact that the extent of retardation by a given percentage of alcohol varies greatly with the strength or activity of the gastric juice and with the digestibility of the proteid material. Everything else being equal, the greater the strength or digestive power of the gastric juice the greater the inhibitory action of a given amount of absolute alcohol. It is, therefore, impossible to make a general specific statement regarding the action of given percentages of alcohol under all conditions. Our results agree essentially with those obtained by Sir William Roberts, who found that in the presence of less than ten per cent. of proof spirit (five per cent. of absolute alcohol) there was no appreciable retardation of gastric digestion. With ten per cent. of proof spirit, retardation was only barely detectable, while with twenty per cent. it was quite distinct. Beyond this point the inhibitory effect of alcohol increased rapidly.

On the proteolytic action of the pancreatic juice, absolute alcohol exercises a more marked influence, the presence of even two or three per cent. being sufficient to produce a distinct retardation of digestive action. Still, as in the case of gastric digestion, the exact amount of retardation is greatly dependent upon the digestive power of the pancreatic fluid. When the amount of absolute alcohol present in the digesting mixture is less than one per cent. the inhibition of proteolytic action is very slight, provided the ferment is fairly vigorous in its action.

On the digestion of farinaceous foods by the saliva, absolute alcohol has no very marked influence. With active saliva not greatly diluted, the presence of even five per cent. of absolute alcohol may lead to a slight increase in digestive power. Large quantities of alcohol cause retardation of amylolytic action, but even ten per cent. of absolute alcohol causes only a slight retardation. As this percentage of absolute alcohol is equal to at least twenty per cent. of proof spirit, it follows that pure alcohol, free from admixture, is not liable to interfere materially with the digestion of starchy foods by the saliva, nor presumably by the pancreatic juice.

Strong alcoholic beverages, such as whiskey, brandy, rum, and gin, containing ordinarily about fifty per cent. of absolute alcohol and with only a small amount of solid or extractive matter, have an action upon gastric digestion practically proportional to the quantity of alcohol present. Thus, with a vigorous gastric juice, the presence of even ten per cent. of whiskey results simply in a slight retardation of digestive action. The same is true of brandy, gin, and rum. With a weak gastric juice, the retarding action is much greater. When digestive action is fairly vigorous the presence of small percentages of whiskey causes practically no retardation; indeed, there is even a slight suggestion of increased digestive action in the presence of three per cent. of whiskey, much the same as was observed in the experiments with absolute alcohol. In the presence of twenty per cent. of whiskey, on the other hand, digestive activity may be reduced one-fourth, and when the gastric juice is very weak from scarcity of the active ferment, then even small amounts of whiskey may exercise a very marked retarding effect upon the digestive process. Such retardation of gastric digestion as whiskey, brandy, gin and rum produce

is connected mainly with the presence of alcohol or other volatile matter contained in the liquor, the solid matter present in the fluid not showing, as a rule, any evidence of responsibility for the inhibitory action. The conclusion is obvious that pure whiskey, brandy, rum and gin are no more deleterious to gastric digestion than corresponding strengths of absolute alcohol, and, further, that in the healthy individual these liquors can be considered to impede the gastric digestion of proteid foods only when taken immoderately and in intoxicating doses.

With reference to the composition of whiskey as bearing upon possible variations in the action of this fluid on gastric digestion, our results show merely a variation in the percentage of alcohol present, suggestive of more or less addition of water. The few results obtained by the writers in this direction show variations in the percentage of alcohol ranging from thirty to fifty per cent. There was likewise some variation in the quantity of tannin present, but in no case was the amount of the latter large.

As to so-called fusel oils, our results show that the higher alcohols, supposedly contained in such oils in small quantities, tend to increase rather than decrease the proteolytic action of the gastric juice. Thus, methyl, propyl, isobutyl and amyl alcohols all increase somewhat the digestive power of the gastric juice when present in small amount. Large quantities have a decided inhibitory action. Plainly, however, if these alcohols are common impurities in whiskeys, brandies, and related liquors, they do not exercise any deleterious influence upon the proteolytic action of the gastric juice.

On pancreatic digestion whiskey is quite active. The sensitiveness of the pancreatic ferment to this form of alcoholic liquor is quite marked. Further, the retarding action of a given percentage of whiskey is greater than that of a corresponding percentage of pure alcohol, thus indicating the presence of an additional inhibitory subtance which is apparently a part of the solid matter of the whiskey and is undoubtedly connected with the acidity of the fluid. Brandy and rum have essentially the same action upon pancreatic digestion as whiskey. Both retard proteolysis quite noticeably, and with both fluids the retardation is somewhat greater than that caused by a corresponding strength of alcohol.

The higher alcohols, such as are present in fusel oils, have a somewhat greater inhibitory action upon pancreatic digestion, *i. e.* trypsin-proteolysis, than ethyl alcohol; but when it is remembered that these alcohols can be present in whiskey, brandy, etc., only in very small quantities, it is seen that they can exercise very little influence in modifying the action of alcoholic liquors upon pancreatic proteolysis.

On the digestion of farinaceous foods by the saliva, whiskey and brandy have no retarding influence when present to the extent of five per cent., provided the saliva is not too greatly diluted. Present in larger quantities or when mixed with weak or greatly diluted saliva, they exert a retarding influence upon amylotic action which is out of all proportion to the contained alcohol. The inhibitory action is connected mainly with the acidity of alcoholic fluid, for on neutralization of this acidity the inhibitory action of the liquor ceases. Rum differs from whiskey and brandy in having a somewhat greater inhibitory action, due simply to the greater acidity of this fluid, and is nowise connected with the alcohol present.

The heavier alcohols—amyl, butyl, propyl, etc.—all tend to increase the amylolytic action of the saliva when present in small quantity.

Wines, as a class, when present in small amount, have little or no action upon the chemical processes of gastric digestion. In small amount they may even increase somewhat the rate of digestive action. In larger quantities they have more or less of a retarding effect which is dependent more upon the character and amount of the solid matter present than upon the contained alcohol. Thus with wines containing ten per cent. of alcohol, the alcohol is of minor importance so far as the influence of the fluid upon the solvent or digestive power of the gastric juice is concerned.

On pancreatic digestion, wines have a far greater inhibitory action than the stronger alcoholic liquors. This action, under ordinary circumstances, is almost entirely independent of the content of alcohol, and is very closely connected with the acidity of the fluid. Thus, a strongly acid wine, like a claret with only ten per cent. of alcohol, has a far greater retarding action on trypsin-proteolysis than a sherry with twice that amount of alcohol but with less acidity.

On salivary digestion, wines as a class show a very powerful inhibitory effect — an effect which is due almost entirely to their acid properties. Thus, when the acidity of a wine

is neutralized, it loses completely its inhibitory effect on salivary digestion.

Malt liquors in small quantities are without any marked influence on the digestive power of the gastric juice. In larger quanties they cause an inhibition of proteolysis which is entirely unconnected with the small amounts of alcohol present, but directly traceable to the comparatively large amounts of extractives they contain.

On pancreatic digestion the malt liquors as a class exert an inhibitory effect, which, however, is not very pronounced. The retarding action is due mainly to the character of the solid or extractive matters present in the liquors, and is practically unconnected with the content of alcohol. The inhibitory action of malt liquors is far less pronounced than that of wines.

On salivary digestion malt liquors have a very great retarding effect, especially when the saliva is quite dilute. With saliva less diluted the retarding action is far less pronounced. The inhibitory action of these liquors is due solely to their acidity. Remove the acidity by neutralization with an alkali, and the inhibitory action disappears.

Finally, it is to be plainly understood that these conclusions apply solely to the influence of the various liquors studied upon the purely chemical processes of digestion—*i. e.*, upon amylolysis and proteolysis. The results recorded do not afford data for drawing any broad or general conclusions regarding the influence of alcoholic drinks upon digestion or alimentation, since they throw no light upon possible modifications of the action of alcohol and various alcoholic fluids, upon the digestive action or solvent power of the saliva, gastric juice, and pancreatic juice, the three important fluids of the body; but before we can answer the question, How do alcoholic fluids affect digestion? we must ascertain the influence of these fluids upon the secretion of the digestive juices and upon the absorption of the products of digestion, as well as upon peristalsis, and not until these points have been thoroughly studied shall we be able to understand fully the action of these beverages upon the whole process of digestion.

COCAINE AND COCAINISM.

In the *Revue de Thérapeutique Medico-Chirurgicale* of March 15, 1896, SALLARD contributes a paper with this title, in which, after a brief historical *résumé* of the influence of this drug upon various portions of the body, he proceeds to discuss the causes and symptoms of acute and chronic cocaine poisoning.

After stating that these untoward symptoms arise from subcutaneous and submucous injection, and from the use of large quantities upon the mucous membranes, particularly the urethra, he reminds us that Réclus, after a careful study, has concluded that on an average three grains of cocaine is the safe limit for anesthetic purposes. He also quotes an experience of Abadie's in which, after the injection of two thirds of a grain of cocaine into an eyelid before an operation upon ectropion, the patient, aged seventy-one years, was seized with coma which lasted for five hours, death ultimately occurring.

He also quotes an experience of Hugenschmidt, a celebrated dentist of Paris, who had a case of syncope lasting half an hour as the result of injecting ten drops of distilled water into the gum, thus illustrating the fact that injections under mucous membranes are capable of producing symptoms independently of the presence of cocaine. We believe this patient had already suffered from an attack of acute cocaine poisoning as the result of an injection. No case of death, however, has resulted after the absorption of a small amount of cocaine. There is one case, however, of a death from the injection into the urethra of a solution containing eight grains of this drug. The symptoms of acute poisoning under these circumstances are variable: sometimes they are simply those of a brief and fleeting vertigo; in other instances there is great excitation of the nervous system and a tingling in the extremities, with flushing of the skin followed by pallor; in other instances there are gesticulations and the patient passes into a condition of active talkative delirium. The latter symptoms are seen most frequently in women. In other instances the symptoms are those of marked depression. The vertigo produces nausea or sensations similar to those of sea-sickness. There is marked feebleness and the patients are in a condition of semi-stupor. There may also be palpitation of the heart and some vomiting. There is marked pallor of the face, dilatation of the pupils, coldness of the extremities, and profuse sweating. Should convulsive symptoms come on, the intoxication is of course exceedingly profound and the prognosis grave. Convulsions are at first tonic, then clonic in character, sometimes resembling those of ordinary eclampsia. There is marked dyspnea, probably due to tetanic contractions

of the respiratory muscles, and cyanosis is present from similar reasons, the cause of death being failure of respiration. The duration of these untoward symptoms produced by poisoning by cocaine is usually from one to two hours, although of course they may last for a longer period of time. Marked insomnia is very apt to follow these symptoms.

Sallard points out that Gauthier has stated that the administration of nitro-glycerin will greatly diminish any danger connected with the use of cocaine, and that Glück has claimed that by the use of phenate of cocaine these symptoms can also be avoided.

Goesel has also proclaimed the advantages of tropacocaine as less likely to produce depression of the heart and other untoward symptoms.

Magitot, after stating that only very minute quantities should be used for producing local anesthesia under the skin or mucous membrane, adds that cocaine injections should never be used in neuropathic patients or in those suffering from cardiac disease or chronic affections of the respiratory passages. Great care should also be taken that it is not introduced into the veins. The patient who receives cocaine instillations should also always be placed in the horizontal position, save in those instances where in operations upon the mouth or head a semi-reclining or erect position is indispensable. Again, the greatest care should be used that the hydrochlorate of cocaine is absolutely pure and not mixed with other alkaloids which may possess a toxic influence. It is also well to use the instillations gradually rather than to inject them all at once. Magitot believes that cocaine possesses over chloroform and ether incontestable advantages.

Should symptoms of acute intoxication by cocaine develop in any case, the treatment is to place the patient flat on his back and use slappings of the face and chest with hot and cold towels, ammonia by inhalation, and if necessary nitrite of amyl, and hypodermic injections of ether and caffeine.

Chouppe has recommended that from one-third to one-half a grain of morphine be given hypodermically.

In regard to chronic intoxication by cocaine, or what has been called cocaino-mania, Sallard tells us that this habit is constantly increasing in France. The symptoms consist of loss of appetite, cardiac palpitation, headache and vertigo, finally followed by hallucinations or delusions. The following treatment is to be instituted:

In the first place, abstinence from cocaine is to be insisted upon under proper control of attendants or in a hospital. The method of decreasing the cocaine need not be instantaneous, but it should be tapered off rapidly. Hydrotherapeutic measures designed to increase nutrition should be resorted to, and iron, quinine, and arsenic, with heart tonics, such as caffeine and sparteine, should be employed. Chloral, trional or sulphonal may be employed to overcome insomnia, and the whole effort of the physician should be directed by means of appropriate exercise and a regular method of life to improving the patient's general nutrition.

THYROID FEEDING IN GOITRE.

STABEL read a paper on this subject before the Berliner Medicinische Gesellschäft (*Deutsche Med. Woch.*, Feb. 20, 1896), based on ninety-three cases, twenty-five of which were treated with fresh thyroid gland (20 to 34 grammes in the week) and the remainder with thyroid tablets. Of the twenty-five, all but one took the fresh gland well; in the exceptional case it had to be discontinued owing to the vomiting induced by it. A positive result was obtained in all the cases, but only amounted to improvement. The measurement round the neck decreased 3.3 centimeters on an average, the maximum decrease being 6.8 centimeters. In only four cases was the cure complete, and two of these relapsed later. Four to six weeks after the discontinuance of the treatment the goitre began to increase in size again. In most cases a slight acceleration of the pulse was noted. As regards the tablets, the same general results were obtained, but the average diminution in the neck measurement was only nine-tenths of a centimeter. In tablet form the thyroid substance is more apt to produce unpleasant symptoms than is the fresh gland given in corresponding amount. The acceleration of the pulse persisted for some time. Thyroid treatment is not harmless. The author is of opinion that it is contra-indicated in Graves' disease. Finally, he records a case in a woman aged fifty, who first noticed swelling of the thyroid gland a year previous; under thyroid treatment the goitre almost disappeared, but for forty days after the discontinuance of the treatment a relapse occurred; three weeks after the treatment was resumed the goitre again greatly diminished in size.

In the discussion which followed, EWALD

said he had found the thyroid treatment of most use (1) in young individuals with goitre, especially in chlorotic girls, and (2) during the first period of the treatment, for later the circumference of the neck remained the same. In no case had he seen a total disappearance of the goitre. Ewald only used tablets, and has recently apparently discontinued the treatment in these cases. MENDEL and SENATOR had both treated cases of Graves' disease with thyroid, but without effect. In one case mentioned by Senator a slight alimentary glycosuria appeared during the treatment.—*British Medical Journal*, March 20, 1896.

THE REMOVAL OF CERUMEN FROM THE EXTERNAL AUDITORY CANAL.

In a practical note upon this subject we are told by LAURENT that under no circumstances should cerumen be removed from the ear by the use of metal instruments such as tweezers, stylets, or similar instruments which may do damage, unless the physician be an experienced otologist and familiar with the technique of removing foreign bodies from the ear; for by the use of these instruments, aside from the ordinary damages which may be done by bruising, it is possible to produce furunculosis of the external auditory canal through infection of the glands, and there is also danger of injuring the tympanic membrane, or of causing hemorrhage from the canal, or deafness and vertigo. By far the safest and most efficient plan for the removal of wax under these circumstances is the use, by means of an absolutely sterile syringe, of water which has been sterilized by boiling and which is as hot as the patient can bear. If desired, a very small portion of carbolic acid may be added for its antiseptic influence. After the water is sucked up into the syringe, care should be taken that the point of the instrument is elevated and that all air is driven out of it, as the injection of bubbles of air into the external auditory canal produces a very disagreeable and painful sensation in the ear. A small pitcher or vessel, usually used for receiving liquid when the ear is being irrigated, is held tightly against the skin beneath the ear, and then the water is injected with gradually increasing force until the mass is loosened and readily removed. Great care must be exercised that the first drops in particular are not driven into the ear with too much force, for if force is used vertigo and pain will result. In other words, no forcible measures should be used under any circumstances for the removal of such accumulations as we are speaking of. Five or six full syringefuls of water are usually sufficient. In other instances irrigation by means of a fountain syringe held eighteen inches or two feet above the ear of the patient is more efficient than the piston syringe. If the mass in the ear is so hardened that the injection of water will not soften it, it is well to prescribe as follows:

℞ Bicarbonate of sodium, 15 grains;
Glycerin, 1 drachm;
Water, 1 drachm.

Three times a day the patient drops into the ear by means of a spoon, or with a medicine-dropper, five or ten drops of this solution, which has previously been warmed, and after it has remained there for a few minutes a pledget of cotton should be placed in the external auditory canal in order to preserve the moisture. In the course of a day or two the cerumen will be so softened by this solution that it will be easily removed. If it is perfectly free in the auditory canal it can, of course, be removed by a scoop or tweezers, but these are never to be employed unless the concretion is already loosened. After the removal of the mass the ear should be thoroughly dried by means of absorbent cotton, and a small pledget of absorbent cotton be placed in the external auditory canal to protect the part from cold. If these measures are used, serious results never occur, and the deafness which has been produced by the obstruction in the canal speedily disappears.—*Journal des Praticiens*, March 28, 1896.

TRAUMATISMS COINCIDENT WITH LABOR; THEIR PREVENTION AND REPAIR.

JARMEN tells us in the *American Medico-Surgical Bulletin* of March 28, 1896, some interesting facts as to the injuries produced by childbirth and how to prevent many of them; here, as he says, the fact still remains that, in spite of all precautions, lacerations of the cervix will occur, and it is the writer's belief that all such lacerations should be repaired—provided the tear is of more than the first degree, and that no contra-indications on account of the condition of the patient exist, except post-partum hemorrhage requiring uterine tamponade.

The closure of one avenue of infection, the prevention of one of the most frequent causes of subinvolution with its long train of symptoms, the removing of the possibility of an

after-operation, and in fact the right that the patient possesses of being left in a condition as nearly normal as possible, all demand the repair of a cervix which has been lacerated.

It is not necessary to have a large number of assistants or many instruments. The repair can be accomplished single-handed, aside from the necessary presence of some one to administer the anesthetic. The patient having been so placed that the buttocks are well over the edge of the bed, and the thighs flexed over the abdomen, the anterior lip of the cervix should be grasped with a strong tenaculum, preferably of the double variety, and drawn down to the vulvar outlet. Personally, so that he may be forced to carry the least number of instruments necessary, Jarmen uses a small artery clamp for a needle-holder, and, arming a curved surgeon's needle with silkworm-gut, he proceeds to pass the requisite number of sutures to close the laceration. The sutures should be tied more firmly than in any other surgical procedure, since the rapid involution of the cervix would otherwise soon render them too lax to keep the surfaces in apposition.

The writer has found silkworm-gut preferable to any other suture material, from the ease of rendering it sterile by boiling, and from its more absorbable character. It may be left *in situ* any length of time, and removed at the operator's convenience.

Lacerations of the perineum have received far more thought during the last ten years than ever before, probably owing to the great strides that have been made in gynecology during this time, and, as it has been determined that they play no small rôle in the causation of pathological conditions, methods of prevention and repair have assumed greater importance. It is not at all infrequent to hear men say that they never see such accidents among their own patients. The old adage, that "None are so blind as those who will not see," is certainly appropriate in the cases of such observers, or, rather, non-observers. That lacerations of the perineum will occur even in the hands of the most expert is a well known fact. Undoubtedly, however, preventive measures are far more applicable and practicable in lacerations of the perineum than in those of the cervix.

Again, it is necessary to consider the mechanism of the causes which produce laceration of the perineum, before we can best determine upon the adoption of preventive measures.

The writer departs somewhat from the usual nomenclature, and, in place of speak- of the three degrees of laceration, refers to them as internal, external incomplete, and external complete. This division certainly will render the remarks upon repair more intelligible. The internal laceration, again, must be divided into the tear (which involves the vaginal wall) and the subcutaneous variety. The first of these nearly always takes place as a result of operative procedures. The gradual dilatation of the perineum is as necessary as that of the cervix, if lacerations are to be avoided. Old primiparæ, whose perineal tissues are less resilient, are very much more likely to suffer from traumatisms of this character. It would naturally follow that, if the uterine contractions are very firm and likely to expel the head before the proper dilatation of the perineal floor has been obtained, the obstetrician must use such preventive measures as are within his power. While the writer does not say dogmatically that it is best to confine such women in the lateral posture, he has personally found this course preferable.

With the patient in Sims' position, it certainly seems easier to control the advance of the head by pressure upon the occiput. The first and second fingers of the right hand rest upon the occiput, and the thumb back of the anus; this gives perfect control over the further descent of the head, and at the same time produces more perfect flexion. It is wonderful what this intermittent dilatation of the perineum will accomplish. It would seem that at this time chloroform anesthesia is a most helpful adjuvant; it lessens the intensity of the pains and prevents misguided efforts upon the part of the patient.

When dilatation is complete, the head should be delivered between the pains, at a time when the vulvar borders are least tense. This can be readily accomplished by passing two fingers into the rectum and making direct traction upon the chin, or,—a method which is perhaps better,—upward pressure upon the malar prominences, the other hand preventing the too rapid advance of the head.

The overdistention which is coincident with the delivery of the head is almost certain to induce a firm contraction of the uterus. It is here that the obstetrician must be on the alert, or else the perineum may be torn by the too rapid delivery of the shoulders. To avoid this accident, it is only necessary to grasp the head firmly as soon as it has been expelled, and to prevent the delivery of the shoulders until after the cessation of the

next pain, when it can be accomplished with less risk to the soft parts. The writer is convinced that many perineums which have escaped laceration at the time of the expulsion of the head, are torn by the too rapid delivery of the shoulders.

If it is evident that one's efforts in this direction are not successful, and that laceration of the perineum is impending, episiotomy should at once be performed. The vulvar outlet enlarged by two lateral incisions is certainly a more favorable condition for repair than one which has been torn.

Mention has been made of the internal subcutaneous laceration; in reality it should be denominated submucous. This tear is confined to the deep muscular structures of the pelvic floor, and any one who has occasion to work in gynecological clinics will recall how many symptoms accompany such a lesion—prolapsus of the uterus and vaginal walls being almost constant. This tear is nearly always due to the long pressure of the head upon the pelvic floor, and its prevention is to be found in the timely application of forceps and extraction.

These, then, are some of the preventive measures which may be adopted, and in a great number of cases they will prove successful. There will still remain a certain proportion of cases where laceration will occur, and where repair will be necessary. It should be the routine practice, after the completion of the delivery, to examine by sight the condition of the pelvic floor. It is not at all infrequent to find, upon separation of the vulvar orifice, that internal laceration has taken place, while the external or cutaneous portion of the perineum may be intact. This traumatism is one productive of a long chain of symptoms, unless repaired.

The question of anesthesia is one which will depend much upon the extent of the tear; if only a few stitches are necessary, no anesthetic need be given, for the parts are so benumbed by pressure that but little pain is experienced. If the tear, on the other hand, is extensive, it is better to administer the anesthetic, so that the surfaces may be more perfectly coapted.

The method of operating will vary with the character of the traumatism. If the tear is entirely internal, its upper angle should be exposed, and a needle armed with silkworm-gut should be passed from one side to the other of the laceration, care being taken that the suture is entirely buried. Sutures may in this way be passed at intervals of about a quarter of an inch until a sufficient number have been adjusted to close the wound. The sutures should be tied firmly, to allow for the subsidence of the edema of the parts. If the tear is external, incomplete—that is, does not involve the sphincter—sutures may be passed in the same way. If the tear, however, involves the fibres of the sphincter, the operation is somewhat more complicated. It is best here first to convert the complete laceration into an incomplete one by sewing up the torn gut and sphincter. The rent in the gut should be repaired by passing silkworm-gut sutures from the rectal side into the wound, and then back into rectum, so that when the sutures are tied the knots will be in the rectum. The several ends of the sphincter must be found and carefully united by means of a suture which passes entirely around the depth of the wound. When the sphincter has been properly united, the other steps of the operation will be the same as has already been stated. The field of operation will be rendered distinct if sterilized cotton is passed into the vagina to absorb the flow of blood from the cervix.

PENTAL: 150 ADMINISTRATIONS, WITH ONE DEATH.

At a recent meeting of the London Society of Anesthetists, Dr. STALLARD of Manchester read a paper on Pental. The preparation of pental was explained and its literature narrated. Being volatile at the ordinary temperature of the room, it is necessary to administer it by the closed method, with the admission of as little air as possible. If exhibited on a piece of lint a large quantity of the drug is required; two cases anesthetized by this method were long in becoming unconscious, and both complained of violent headache on recovery. In all the other cases Clover's portable ether-inhaler was used. Two drachms were poured into the receiver, the indicator placed at zero, and the patient encouraged to fill the small bag with expirations; the indicator was then turned rapidly but evenly to 3; rarely was it necessary to turn F. Pental may be given more rapidly than ether, and there is none of the coughing, struggling, and fighting for breath which are so characteristic of the latter drug when given alone without the previous exhibition of N_2O. No restriction was placed on Stallard's patients with regard to diet, and in only one case was there after-vomiting. In all the cases the patients sat in a dental chair, the

head being in an easy position midway between flexion and hyper-extension. The horizontal position would be much safer, as signs of cardiac failure frequently occurred in the cases narrated, pental in this respect resembling chloroform. The pulse was quickened, and likewise the breathing, and then the pulse became fuller and bounding, with dilatation of the capillaries of the face, evinced by extreme flushing similar to that observed when nitrite of amyl is inhaled. Swallowing movements were observed, but never any coughing or struggling. Screaming may occur, and dreams of a pleasant nature are frequently experienced. Spasms, tonic or clonic, are occasionally present unless the anesthesia be deep. Under profound pental narcosis the pupils dilate and the eyeballs invariably turn upwards under the upper lids; in some cases the arm when lifted drops helplessly to the side. At the height of anesthesia the pulse becomes small and may be running. There is no cyanosis or duskiness of the features, and stertor is extremely rare. Micturition and defecation have never been observed. Opisthotonos and clonic twitchings of muscles were noted in a few cases. The patients were generally tranquil. The breathing could hardly be heard, and this constitutes one of the dangers, the drug in this respect acting like chloroform. Recovery was very rapid, not being followed by any drowsiness or stupor. As a rule, there were no after-effects, patients feeling quite well three minutes after removal of the face-piece, and being able to walk out of the house. One case of vomiting occurred, and three or four of nausea; slight headache was sometimes present, which rapidly passed off. The average time required to produce anesthesia was 56 seconds, and the average anesthesia obtained was 76 seconds. The pre-anesthetic stage varied from 30 to 120 seconds, and the period of anesthesia from 25 to 210.

The advantages claimed for pental are: (1) Longer anesthesia than NO_2 yields; (2) simple apparatus; (3) no struggling or dislike to the drug; (4) small amount required—about two drachms; (5) rapid recovery; (6) no after-effects. The disadvantages are: (1) Insidiousness in action—too much may be given easily; (2) breathing noiseless and shallow; (3) screaming; (4) sudden stoppage of respiration; (5) sudden failure of heart's action.

Dr. Stallard then related a fatality which had occurred under pental in his practice, the case being his hundred and forty-eighth administration. A woman, aged twenty-three, attended to have several stumps (of teeth) removed. She was well developed and somewhat fat; heart sounds were quick, but no *bruit* was present, and no adventitious sounds were in the chest. She took the anesthetic well, but, being very nervous, commenced to breathe very quickly; being told to breathe more quietly, she did so, and became unconscious in 44 seconds. Four stumps were extracted, when the face became pale and respiration ceased, and the pulse that could be felt was very feeble. The patient was placed on the floor, and Sylvester's method of artificial respiration performed, but there was no attempt at voluntary respiration. The feet and legs were elevated and rubbed by the students present. An enema of brandy was injected slowly per rectum, but none of it was retained. Warm cloths were applied to the precordium, traction was rhythmically made on the tongue, and forty minims of ether were injected hypodermically over the precordium. The pupils five minutes after removal from the chair were moderately dilated, and the heart could be heard by the stethoscope feebly fluttering. At no time was there any cyanosis or duskiness of the features, but rather paleness; there was no sweating. On applying the battery over the phrenic nerve and diaphragm, three distinct contractions were noticed and then ceased; the pupils became widely dilated, and the tongue was cold to the touch. Artificial respiration was continued for an hour, but was of no avail. There was no attempt at voluntary respiration at any time beyond the three contractions of the diaphragm. No post-mortem examination was allowed.

After remarks from the President, Dr. DUDLEY BUXTON, speaking of the mortality of pental, said the author gave one in 149 cases, but whether this was really due to pental was doubtful. Gurlt gave three deaths in 600 cases, and Snow two in 238 cases. One of the difficulties in working with amylene and pental was the frequency of impurities. Before pental could be accused of causing deaths, one must be sure it was pure. In all probability much of the pental at present supplied was impure. The German observer had found albuminuria and hemoglobinuria occurring in many cases within three or four days after the administration. Pental, so far as was known at present, was a most useful drug, but it probably possessed grave disadvantages from its liability to affect respiration, possibly through spasm of

the glottis or diaphragm. In the cases of death, it was noticed that these had arisen from failure of respiration, while the heart had continued beating for some minutes afterwards. A marked injustice might easily be done to any new anesthetic if, because cases of death occurred in the early days of its administration, its use was therefore discarded.

Mr. Joseph White said that forty years ago he used amylene extensively, principally during the extraction of teeth, and found it a charming anesthetic—quick in its action, no after-effects, and agreeable to the patients. When used for longer operations he soon found that alarming symptoms were very apt to arise, feeble respiration and circulation occurring very suddenly, so that he discarded the drug, not considering it so safe as chloroform.

Dr. Silk was struck by the similarity of Dr. Stallard's cases to those he had himself published as occurring when bromide of ethyl was administered; given the change of name in the two records of cases observed, it would be difficult to distinguish the one from the other. He had noticed with bromide of ethyl that decomposition always occurred sooner or later when the bottle had once been opened, and, as the clinical symptoms appeared so similar, he would ask Dr. Stallard whether he had found any evidence of decomposition occurring with pental. He was of opinion patients should not be in the dental chair, but recumbent, during the inhalation of pental, as vascular depression was so frequently noticed.

Dr. Augustus Cook had been administering pental during the last four or five years, all his cases being fairly long ones, some half an hour in extent, and his patients were invariably in the recumbent position. The main advantage of pental was the absence of after-effects. It might even be administered on a full stomach without fear of causing vomiting. The open method was employed in all his cases.

Dr. Dudley Buxton asked if Dr. Stallard could not explain why in these recorded cases one would give an anesthesia of 90 seconds, another 25 seconds, and another as much as 210 seconds.

Dr. Stalliard, in reply, said he had frequently noticed that decomposition of the drug had occurred. With regard to albuminuria, he had examined twenty-cases after administration and found no albumin; but it must be remembered that all his cases were short ones, and its effect would not be long enough to injure the kidney. The fall of blood-pressure was very marked. With regard to the variable lengths of anesthesia obtained, he was of the opinion that there was a marked personal factor present in many cases.—*British Medical Journal*, March 21, 1896.

THE TREATMENT OF PULMONARY CONGESTION OR PULMONARY APOPLEXY.

This condition, which comes on in many cases of cardiac disease, and somtimes in persons who suffer from cardiac and renal difficulties, is best treated, according to the *Revue Internationale de Médecine et de Chirurgie* of March 26, 1896, by the following means: If the difficulty is with the heart, this organ should be properly stimulated by the administration of digitalis or caffeine, with the object of emptying the right ventricle and diminishing the cardiac engorgement. If the infectious diseases be present, tonics, alcohol, champagne and quinine should be given. Sometimes it is wise to use wet cups over the engorged area. For the shortness of breath dry cups may be used. Inhalations of oxygen and injections of ether may be given, or, in the place of ether, caffeine dissolved in camphorated oil. One to four hypodermic syringefuls may be given:

℞ Camphor, 1 drachm;
Sterilized olive oil, 1 ounce.

If the hemoptysis be marked, it may demand special treatment; and to prevent fainting, tight bandages should be placed around the limbs to confine the blood to the vital centres. Small pieces of ice may be taken into the mouth, and hypodermic injections of ergot may be employed, ergot also being given by the mouth. It is also stated that the following prescription may be of advantage under these circumstances:

℞ Dilute sulphuric acid, 1 drachm;
Simple syrup, 1 ounce;
Decoction of cinchona bark, 2 drachms;
Water, 7 ounces.

A tablespoonful to be given every half-hour.

In other cases the following prescription may be employed—the medicine to be placed in hot water, and the steam inhaled:

℞ Beechwood creosote, 3 drachms;
Balsam of Peru, 1 ounce;
Turpentine, 2 ounces;
Tincture eucalyptus, 4 drachms;
Tincture benzoin, 4 drachms;
Essence of turpentine, 2½ ounces.

INTERESTING CASES OF PERINEAL SECTION. WITH REMARKS.

The above is the title of an interesting and instructive paper by G. FRANK LYDSTON, in the *Journal of the American Medical Association* of March 14 and 21, 1896. Lydston, after detailing fifty-three of his cases, calls attention to the value of the preparation of the patient for operation. In his own practice the main features of the preparatory treatment consist in the administration of eucalyptus and careful regulation of the diet, with rest in bed, where these measures are practicable.

The proportion of cases in which he now meets with urinary fever after genito-urinary operations is so much less than he has heretofore experienced that he feels the credit is due to the oil of eucalyptus which he administers in ten-minim doses, in capsule, four times daily. Few patients are intolerant of it, and most of them who are sensitive to the drug can take it very comfortably by drinking freely of milk at the same time.

The writer does not believe that perineal section should be performed in every case of deep stricture. In many cases of apparently intractable deep stricture, operation may be avoided and the subsequent treatment carried out successfully by gradual dilatation, provided sufficient patience be exhibited in instrumentation. In some cases the preparatory treatment of regulated diet, eucalyptus, saline diuretics, hot sitz-baths, and leeches to the perineum and anus, may remove those conditions which, superadded to the actual organic contraction, offer insuperable obstacles to dilatation as long as they exist. There are certain cases, however, which experience has proven absolutely demand operation. These cases may be classified in general terms as:

1. Cases in which the patient comes from a distance and is unable to receive proper treatment by dilatation at the hands of the local physician or surgeon.

2. Cases in which the patient can only have dilatation practiced at irregular intervals on account of some peculiarity of his occupation.

3. Severe or moderately severe traumatic strictures.

4. Cases complicated by serious prostatic or bladder disease.

5. Cases in which obstinately recurring chill and fever are observed with or without (especially with) interference with the deep urethra by dilatation.

6. Cases complicated by renal disease.

7. Cases in which severe hemorrhage follows operative interference with the anterior urethra.

8. Cases of irritable and resilient stricture of large calibre at or about the bulbo-membranous junction, accompanied with symptoms of severe vesical irritation.

9. Cases of severe anterior stricture in which instruments can be introduced only with great difficulty, if at all.

Safety, convenience, thoroughness and greater immunity from recurrence are best obtained by the radical operation in such cases.

With regard to the danger of sepsis, it is now admitted by every practical surgeon of experience in genito-urinary surgery that the key-note of safety is a perineo vesical tube. A boutonnière is advisable where bladder or prostatic complications worthy of attention exist, as we thereby not only render the anterior urethral operation much safer, but also in many cases bring about a cure of the deeper-seated disease. It is to be remembered in this connection, however, that every case of anterior urethral disease in which vesical symptoms exist is attended by deep-seated prostatic or vesical infection. Early in the case, especially, the vesical and prostatic symptoms may be due to reflex irritation. This is especially apt to exist in anterior strictures of large calibre, even so far forward as the meatus.

That perineal section is safer than repeated operations by sounding in many cases of deep urethral stricture, is so well understood by practical genito-urinary surgeons that it is hardly worthy of comment. Many cases are observed at the hands of different operators in which chill and fever occur before perineal section, even without attempts at dilatation, and especially with it, in which urinary fever is entirely absent after proper subsequent drainage. In cases in which strictures of the scrotal region of the anterior urethra exist as a complication of deep stricture, perineal section enables us not only effectually to dispose of the posterior difficulty, but also to divide such bands as may be within reach of the finger anteriorly. The facility with which the finger may be introduced into the anterior portion of the urethra after a proper perineal section, and the stricture bands in this region located and divided with a probe-pointed bistoury, or even with scissors, is noteworthy, and will be surprising to any surgeon who has not hitherto attempted this method of operating. Digital exploration of strictures

of the anterior urethra through the perineal wound gives a much better understanding of the relation of strictures of large, or moderately large, calibre to urethral obstruction than can be acquired in any other manner.

Perineal section is certainly the ideal operation for resilient and elastic strictures of large calibre. Such strictures will apparently dilate under the use of a sound, but by means of a rubber exploring bulb may be proven to still exist even after apparently wide dilatation. Behind such strictures a septic process continually persists, drainage is always imperfect, spasm of the deep urethra will be found to exist, and there are usually pronounced symptoms of prostatic and vesical irritation.

The writer has devised a broad divulsor for overstretching the membranous urethra and rupturing or forcibly dilating the thin stricture bands, a procedure which cannot be accomplished by the ordinary sound. A hard-rubber drainage-tube, with a slight prostatic curve or a slight deep-urethral curve, is useful. This tube should be grooved in such a manner that it can be used as a shirted cannula, which will enable one to pack sufficient iodoform gauze about it to prevent the possibility of hemorrhage after the operation.

In cases of anterior urethrotomy in addition to the deep perineal operation, an additional drainage-tube of soft rubber is placed in the anterior urethra, allowing it to escape at the perineal wound. The deep drainage-tube may be removed in forty-eight hours, or may be left in as long as it is necessary to afford vesical drainage in cases in which the prostate and bladder require it. An excellent plan is to have this drainage-tube divided, and coupled together with glass tubing, a couple of inches of which are exposed at some accessible point. This enables the attendant to get a better idea of the amount of hemorrhage and to determine whether the tube is draining properly without removing the lower extremity of the rubber tube from the vessel of antiseptic solution.

In cases of severe anterior stricture in which operation is urgently necessary, if it is found impossible to dilate the canal sufficiently to introduce a urethrotome within the requisite length of time, it is at once obvious that perineal section gives much better control over the anterior stricture, and in case we desire to gain time the patient's retention is perfectly relieved. It will often be found practicable to introduce an instrument from the meatus, under the guidance of the index finger, into the perineal portion of the urethra after the canal is opened. In some instances, while an instrument cannot be passed from before backward, it is quite an easy matter to pass it from behind forward. In cases in which the filiform sound can be introduced, the string-saw method of Abbé can be adapted to the urethra with great facility and usually with surprisingly good results. This method is far superior to prolonged, often futile, attempts at instrumentation in the ordinary manner.

In cases of deep stricture complicated by perineal fistulæ, the indications for perineal section are usually peremptory. There are exceptional instances in which a small fistula in the perineum may be closed permanently under dilatation, or after division of strictures in the anterior portion of the canal; but in by far the larger proportion of cases a perineal operation is necessary. Care should be taken to dissect out, as far as possible, all fistulous tracts. Healing is usually very rapid; indeed, it is often surprisingly so, considering the extent of the incisions necessary to lay open or remove the fistulous tract.

It will sometimes occur that cicatricial bands of the urethra will escape division at the primary operation. It is therefore essential to examine the perineal wound carefully from time to time. Should such bands be found, they may be divided at any time prior to the closure of the perineal opening.

In cases in which sounding, after the operation, is performed with considerable difficulty, or in which the operation of sounding, at first easy, becomes difficult, the surgeon is justified in reopening the perineal wound and seeking for such obstructive bands as have escaped the first operation. If the operation be thoroughly performed in the first place, there should be little or no difficulty in the subsequent introduction of sounds.

The anterior urethra, if diseased, should be restored to its normal calibre. It is rather infrequent that the urethra will not admit a 35 French after thorough division of the perineal stricture. It is generally to be taken for granted that the exudate in strictures is entirely without the proper canal of the urethra.

It will sometimes be found, even in very tight perineal strictures, that the pathological changes constituting the stricture are limited almost entirely to the roof of the canal, the floor being partially normal. When, as occasionally happens, the urethra is practically

fused together at some point, there being at the same time a practically normal condition of the floor of the urethra, and marked thickening of the roof of the canal just in front of the point of fusion, care should be taken lest the urethra beyond the stricture be missed altogether.

A very important point in the after-treatment of perineal section is the frequency of dilatation. The majority of surgeons dilate too frequently. It is perfectly safe to allow the average case to go without instrumentation for at least a week after operation, and it is rarely necessary to pass instruments oftener than every three days.

In cases of fistulæ following perineal section, where a plastic operation is necessary, Zymanowski's method has proven most satisfactory in the writer's hands. In cases in which the perineal wound is slow in healing, the shotted or quilted suture is often effectual.

TREATMENT OF ACNE.

BARDACH (*Dermat. Ztschr.*, vol. ii, No. 2) concludes that the increase in the solids of the blood causes an irritation of the sebaceous glands. A quick cure is effected in these cases by increasing diuresis. For local treatment he suggests a soap containing about one and a half per cent. of iodate and bromate of sodium.

VENTRO-FIXATION OF THE UTERUS AND SUBSEQUENT PREGNANCY AND LABOR.

MILANDER (*Ztschr. für Geb. und Gyn.*, January, 1896) collects seventy-four cases of pregnancy after ventro-fixation of the uterus; ten of these were still pregnant when reported, and one woman had died before term; in the remaining sixty-three, gravidity ended in six cases in abortion, in three in premature confinement, and in fifty-four in labor at term. The position of the fetus was normal except in three cross-births, one footling, and one case where the ear presented. There was no particular trouble during pregnancy in most cases; in a few there were pains at the site of fixation, in some vomiting. Labor was generally normal, obstetric aid being given in eleven cases; inefficient labor pains were noted in two instances. The position of the uterus when afterwards examined is not given in some cases; in others it was one of anteversion as before conception—its fixation was not destroyed nor its mobility deteriorated, but in one of Olshausen's cases the attachment was lost, and retroflexion occurred in a case of Fraipont's and another of Howetz Meyer's. The obstetric interference consisted twice in Cæsarean section, twice in podalic version, once in extraction by the foot, and four times in the use of forceps. Milander draws attention to the large proportion of cases which required artificial aid, and attributes the cross-births to the uterus being compelled in these three cases to expand transversely instead of longitudinally.—*British Medical Journal*, Feb. 29, 1896.

THE TREATMENT OF SCIATICA BY COMPRESSION.

In an abstract of an article from the *Bulletin Médical* of January 22, 1896, which is published in the *Lyon Médical* of February 2, the writer states that M. NEGRO has reported 113 cases of rebellious sciatica in which this new treatment has resulted in recovery. The procedure is as follows: The patient lies on his face, with his legs extended and resting easily one against the other. The most painful spot is selected, the region where the nerve proceeds from the large sciatic opening. On its trunk both thumbs are applied and it is compressed with the greatest possible force; at the same time slight lateral movements are made without changing the point of pressure or moderating its intensity. This takes from fifteen to twenty seconds, and is followed by an interval of twenty minutes' rest, when the procedure is repeated. After a second application, which is much less painful than the first, the patient is able to walk, and for several hours, or even a day, he may be free from pain.

In order to obtain complete recovery, says the author, this procedure should be practiced about six times a day every two days, until the definite suppression of the neuralgia is obtained.—*New York Medical Journal*, March 7, 1896.

THE LINES OF ADVANCE IN ABDOMINAL SURGERY.

In a thoughtful paper on this subject, KNOWSLEY THORNTON (*British Medical Journal*, Feb, 29, 1896) takes up the organs individually, first discussing the liver. He advocates the somewhat surprising view that with an improved early diagnosis and prompt operation no case of abscess of the liver need in the future be fatal, or seriously dam-

age the health of the patient, advising, in common with all surgeons, to evacuate pus at one operation.

He points out that diagnosis of obstruction of the gall-bladder and ducts is often practically impossible, even after abdominal section has been made.

In discussing the surgery of the spleen he calls attention to the fact that bleeding in cases of splenectomy is often the cause of death, hemorrhage persisting from every cut surface. He states that he knows of no successful case of splenectomy with a history of health or any reasonably prolonged life after operation. His strictures upon splenectomy only apply to the operation when it is carried out for the relief of solid tumors or hypertrophy. The organ is, however, amenable to ordinary surgical treatment in hydatid or simple cyst. Wandering spleen should not be removed unless diseased.

The pancreas is interesting rather from a diagnostic than from a surgical point of view. It is chiefly of interest to the surgeon from the important part it plays, especially when attacked by malignant disease, in obstructing the common bile-duct.

In regard to wounds of the alimentary canal, he holds that it is never necessary to wait for symptoms, but after having made a reasonably sure diagnosis, operate at once or as soon as the first collapse has passed off. He urges that the external surface of the patient should be kept well wrapped up, and the work of search, repair and cleansing should be done as methodically and quickly as is consistent with thoroughness.

In considering obstructive diseases of the alimentary canal, the author states he is not sure that the operations performed in the pyloric region, especially for the relief of cancer, have added to our capability materially, either in the relief of suffering or in the prolongation of life, nor is it to the perfecting of such heroic procedures that he looks for future permanent advance in abdominal surgery. He holds that there is a more useful future for gastro-enterostomy than for pylorectomy.

In the case of young subjects suffering from acute obstruction, early exploration should be the rule. The critical maxim should be: Never give a purgative in such cases.

Of the methods for uniting the divided ends of the intestinal canal after resection of a portion of its whole circumference, he prefers Maunsell's suture.

In regard to the uterus, ovaries, and Fallopian tubes, he holds that the difficulties in these operations are the avoidance of immediate septic infection from the uterine cavity during the operation, the still greater danger of septic poisoning later from infection of portions of tissue whose vitality is undermined or destroyed in the course of the operation, and so to deal with the dense and highly vascular tissues as to avoid hemorrage, and equally to avoid strangulation and probable after-death of large portions of tissue.

He holds that there is not a great future for the surgical treatment of malignant disease of the uterus. Operations for removal of the ovaries and tubes are, he hopes, not quite so common as they were. We are beginning to learn that serious after-troubles may result from an immediately successful operation, and a great many cases of inflammatory trouble about the ovaries and tubes will subside with time, rest, and improvement of general health, in most cases more quickly without local treatment than with it. The organs behind the peritoneum are brought through the peritoneum, are more readily examined, and are more accessible to surgical treatment. The only operation upon the kidneys which may nearly always be done altogether outside the peritoneum is fixation.

THE ULTIMATE RESULTS OF VAGINAL HYSTERECTOMY FOR CANCER ORIGINATING IN THE CERVIX UTERI.

At the meeting of the New York Medical Association, February 17, 1896, Dr. Josehh E. Janvrin stated that during the last twelve years, among the various cases in which he had performed vaginal hysterectomy for cancer, there had been sixteen (or about one-fourth the whole number) in which the disease primarily involved the cervix. In five, the cervix alone was affected, in four the cervix and upper part of the vagina, and in seven the uterine body as well as the cervix. Of these sixteen cases, three died immediately after the operation, two showed a recurrence of the disease (one at the end of seven months and one at the end of eighteen), three were lost sight of within a year, and in four—in all of which careful examinations were made at least three and a half years after the operation—there was absolute exemption from recurrence. Of the remaining four cases, one had been operated on twenty-two months ago, with no sign of recurrence up to the

present time, two in September last, and one in October last.

The oldest of the patients was seventy-two years of age, and the youngest thirty-four. Fourteen were married, or had been, and nearly all had borne children. All of the three deaths from the operation occurred among his earliest cases, and were due, he believed, to faulty technique and prolonged manipulation. If these patients had been operated on later, when his experience was greater, he feels convinced that his total results would have been considerably better than they were. In all his cases the ureters escaped injury, but in two instances vesico-vag nal fistula resulted from the operation. In one or two cases he had found it advisable to perform preliminary curettage and to apply iodoform gauze for a time before operating.—*Boston Medical and Surgical Journal*, March 12, 1896.

A CASE OF CERVICAL RIB, WITH OPERATION.

WARREN (*Boston Medical and Surgical Journal*, March 12, 1896) reports an interesting case with the above title.

Cervical ribs are second in frequency of occurrence to lumbar ribs. They have been found at all ages down to a six-months embryo. They occur oftener double than single. In Pilling's cases, the proportion was 37 to 15. They are always connected with the seventh cervical vertebra. They have a costal cartilage only in those cases where they articulate with the first thoracic rib or with the sternum.

The connection with the first rib is usually with the bone itself, and may be bony or fibrous. It may be connected with the cartilage, and in this event the connection is fibrous.

In the first or rudimentary form the rib reaches no farther than the transverse process of the vertebra. In the second or more developed form the rib extends beyond this point. In the third form the rib extends far beyond this point, even forward as far as the cartilage of the first rib, and unites by a ligament or by its end with the first rib cartilage. In the complete form the cervical rib resembles a true rib and has a cartilage uniting it with that of the first rib.

With regard to the relation of the subclavian artery to the cervical rib, the artery always runs over it when the rib is of sufficient length, otherwise the artery runs in front of it and over the first rib. In the cases where the rib has caused symptoms due to pressure on the subclavian artery and brachial plexus, it has seemed to "grow forward" onto them and cause pressure symptoms.

In all the eight cases which Ehrich has found reported, there have never been present symptoms of pressure on the brachial plexus. In three cases pressure on the subclavian artery has given rise to aneurism, in the others to thrombosis somewhere in the course of the artery, and interference with nutrition has resulted.

The symptoms produced by cervical ribs may be classified as local and functional. The second group, functional symptoms, may be divided into two groups: symptoms due to pressure on the bracial plexus, and those due to pressure on the vessels.

The local symptoms are: A bulging, instead of the normal depression of the parts, just behind the posterior border of the sternomastoid muscle and above the clavicle; a visible and tangible superficial pulsation high up in the supra-clavicular region (this may be absent if thrombosis has taken place, or if, as often happens, the subclavian runs in front of and not over the rib); the presence of a smooth, immovable tumor, of bony hardness, in the supra-clavicular region.

The functional symptoms are: Disturbance of the circulation, such as aneurism, believed to be due to the sharp bending of the subclavian; thrombosis, attended with pallor and coldness of the arm; perhaps gangrene of the fingers and muscular atrophy which may be in part due to the compression of the plexus.

Symptoms due to pressure on the brachial plexus are motor and sensory disturbances, such as pareses, severe neuralgic pain and paresthesia, numbness, etc.

Other bony tumors in the same region—for example, exostoses from a first rib—may produce the same symptoms, though they are usually less marked.

The treatment is removal. This, provided the true nature of the bony growth be recognized, is not difficult.

IS SURGERY A CURE FOR CANCER.

DR. E. T. DAVIES (*Liverpool Medico-Chirurgical Journal*, January, 1896) quotes Dr. Byrne as follows, in his address before the American Gynecological Society:

"As the average period of life in cancer of the uterus, when not operated on, is not less

than two years, and often more, suffering has not been lessened but aggravated, and life has not been prolonged but shortened in the vast majority of all cases thus far subjected to vaginal hysterectomy. The field for vaginal hysterectomy in its application to uterine cancer, if indeed there can be one at all, is an extremely narrow one."

Davies states that hysterectomy is largely employed in London, but there are no available statistics; individual methods of performing partial or complete hysterectomy for cancer have been described, but the actual benefit obtained is only lightly illustrated by a few selected cases. Many distinguished physicians, he says, are advocates of surgery in uterine cancer, but their writings do not contain the facts which might support their advocacy. However, a few results of hysterectomy in malignant disease were reported last winter which may serve to replace the missing data. In seven cases the average duration of life after the operation was fourteen months, and in three of the author's cases the patients died within three months of the operation. In view of these facts, he says, the question arises: Is surgical interference a cure for cancer? The arguments advanced for the performance of hysterectomy are, he admits, of some force. The foul discharges and hemorrhages are for a variable period relieved, but there is a recurrence of the disease very soon.

With regard to cancer of the breast, an altogether different set of facts and arguments is met with. Sir Benjamin Brodie, says Dr. Davies, came to the conclusion, after having removed five or six hundred cancerous breasts, that he would never remove another without first laying before the patient the objection which his experience had shown him to exist to that operation—namely, that the practice tended rather to shorten life than otherwise. Sir James Paget, says the author, maintained that cancer was in the blood before it was in the breast; that we must look to constitutional and hereditary tendencies. He spoke with very great assurance of the specific nature of cancer as being almost certainly due to a specific morbid material, micro-parasite or ptomaine, or to one or more of their products, and as being closely allied to other micro-parasitic diseases, such as tetanus, tuberculosis, diphtheria, ague, actinomycosis, syphilis, and others; and he maintained, therefore, that the study of cancer and its treatment must needs be experimental, and once the morbid material was found it could be dealt with in the same way as other specific diseases.

Dr. Davies quotes from many other well known writers on the subject and describes a number of operations which, he says, were no doubt perfectly justifiable, but he thinks that their inclusion in cancer statistics introduces confusion. He very freely expresses his doubts of the value of surgery in cancer, and adds that they have only grown stronger as his opportunities for observation have increased. The habit of thought, he says, should be changed in the treatment of cancer. More work from the pathologist and from the bacteriologist should be looked for, and less from the surgeon.

THE DISADVANTAGES OF NON-ABSORBABLE SUTURES IN OPERATIONS FOR THE RADICAL CURE OF HERNIA.

COLEY (*New York Medical Journal*, Feb. 29, 1896) writes that his personal experience with non-absorbable sutures in hernia operations is confined to three cases in which silk was employed. In one of them, operated upon by Czerny's method, the wound healed by primary union, but soon after leaving the hospital a sinus formed in the cicatrix and refused to heal until the offending sutures had been extracted. The canal had been so weakened by the slow suppuration that relapse occurred three months after the operation, although a truss was worn the entire time. A second operation was then performed, this time by Bassini's method, with kangaroo tendon for the buried sutures, and the patient is now perfectly sound, three years after operation, without ever having worn a support.

In two cases operated upon by the Bassini method, silk was used. In both the wound failed to heal by primary union; in one the sutures all sloughed out, and relapse occurred shortly after leaving the hospital. In a third case moderate suppuration occurred, necessitating keeping the patient in bed after five weeks; the sutures did not come out, and the patient had no recurrence three years after operation.

In 250 cases of hernia operations in which he has used kangaroo tendon for buried sutures he has not had a single instance of sinus-formation, and the proportion of primary unions has been ninety-six per cent.

These cases require little comment further than the statement that they were oper-

ated upon by the leading surgeons of New York City, men whose reputation for careful aseptic work is a sufficient guarantee that the results were not due to faulty technique. The non-absorbable sutures, acting as foreign bodies, must alone be held responsible for these results. Schimmelbusch, in his recent book upon The Aseptic Treatment of Wounds, page 121, states: "It has more than once been observed that in primary closure of wounds by silk or silver wire, the ligature, at the beginning well imbedded in the tissues, after a long period of time becomes repelled and suppurates out. The primary union is satisfactory, but after weeks or months an abscess forms in the line of suture, whereupon a fistula develops, and from the latter the disturbing ligature escapes. Lister introduced six deep hemp sutures into the wound of an extirpated goitre, and after union observed the extrusion of all six in succession in the course of eight or nine months. The imbedded silk or silver wire simply remains as a foreign body in the tissues, of which the organism endeavors to free itself as soon as a favorable opportunity presents. The slowly healing sinus, with all the attending annoyance and discomfort, is the least of the evils. It will be noted that in nearly all the cases reported the constant suppuration so weakened the tissues that relapse soon followed.

Every abdominal surgeon of large experience knows that silk sutures, even when buried within the abdominal cavity, not infrequently find their way out in various ways. The presence of a suture in a hernia canal after firm union has taken place results rather in harm than benefit. Even the tendinous structures that go largely to make up the walls of the hernia canal require no more than eight to ten weeks for firm union. The ideal suture, then, would be one that would hold the parts in apposition for this length of time and then disappear by absorption. In kangaroo tendon we have these conditions perfectly fulfilled. There has never been observed at the Hospital for Ruptured and Crippled a single case of delayed healing of sinus when tendon or absorbable suture was used.

Unless those who use and advocate silk, silkworm-gut, or silver wire in hernia operations are able to present some advantages to offset the serious disadvantages that have been demonstrated, he believes these non-absorbable sutures should be entirely abandoned.

A METHOD FOR THE IMPLANTATION OF THE URETER INTO THE RECTUM.

KRYNOKI (*Centralbl. für Chir.*, No. 4, 1896) states that implantation of the ureter is of great importance in surgery, but that many surgeons, having been disappointed with the unfavorable clinical and negative experimental results, have very skeptical views as regards the value of this operation. The greatest danger in the implantation of the ureter into the rectum is dependent on the probability of infection of the kidneys from the contents of the bowel. This danger is really very important, and to avoid it the entrance of the feces into the implanted ureter must be made as difficult as possible. The best example as to how to do this is seen in the oblique way in which the ureter enters the bladder. Krynoki has imitated this method for experimental implantation of the ureter of the dog, with success. His method is as follows: Upon the anterior inner surface of the rectum, just below the sigmoid flexure, the serous and muscular coats are incised along the two sides of a triangle; the longer incision is parallel to the long axis of the rectum, and is 2.5 to 3 centimetres (1 to 1¼ inches) long; the shorter side is at right-angles to the long axis, and is one centimetre long (three-eighths of an inch). These two coats are stripped back, and in the underlying mucous membrane a small opening is made at the lower part. Into this opening the obliquely cut end of the ureter is introduced, and the mucosa of the ureter and rectum are united with four single sutures. The sero-muscular triangular flap is then returned to its original position, thus covering in a portion of the transplanted ureter. The longer side of the triangle is sewn up with a continuous suture, aud the shorter with interrupted sutures. To obtain still more safety, he sews the ureter by a few stitches to the bowel, along which it runs for some little distance.

Krynoki's paper is illustrated with figures, which render the procedure more easily understood.—*Quarterly Medical Journal*, vol. iv, part iii, 1896.

LAPAROTOMY FOR INTESTINAL PERFORATION OCCURRING IN THE COURSE OF TYPHOID FEVER.

HOTCHKISS (*New York Medical Journal*, Jan. 11, 1896) reports the case of a male patient, aged twenty-four, who on the fifteenth day of typhoid fever was seized with severe abdominal pain. The attending phy-

sician diagnosed "intestinal perforation," and transferred the case to the surgical side. At that time the patient's face was anxious and drawn, intellect clear, pain intense, with occasional vomiting. Upon laparotomy by median incision, a large amount of cloudy serous fluid, containing flakes of fibrin and fecal matter, gushed out. The peritoneum was everywhere deeply congested and covered with patches of fibrin; no adhesions. After free flushing a search was made for the perforation, which was found about five inches from the ileo-cecal valve, and was quite small, with ragged edges; the surrounding tissues were infiltrated and softened. The perforation and softened area were turned in longitudinally for an inch, and sutured by Lembert's method. The abdomen was again flushed, and the diseased portion of ileum surrounded and isolated by sterile gauze, which was brought out at the lower angle of the wound, thus acting as a drain. The patient recovered consciousness and expressed himself as feeling easier, but gradually sank, dying four and a half hours after the operation.

Out of the seventeen recorded cases of laparotomy for perforation in typhoid fever, only three have recovered, but, as these cases may be looked on as rescued from certain death, the author considers that the patient should be offered the slender chances of operation.

THIOSINAMINE.

TOUSEY (*New York Medical Journal*) presents a communication on this subject. He has been experimenting with thiosinamine and studying the literature in regard to it for over a year and a half. He believes it possesses positive curative properties in causing the resolution of benign and malignant tumors and the absorption of cicatricial tissue.

The writer publishes the first cases in which this treatment has been pursued in keloid and other neoplasms; and, though the number of cases has been small, the results have been positive. He believes that with increasing opportunity even greater action will be demonstrated than is now apparent. In addition to a number in which only one or two injections were made, his cases were three of keloid, three of recurrent and "inoperable" carcinoma, and two of lupus.

The first use of thiosinamine in medicine was reported by Von Hebra before the Second International Congress of Dermatologists, Vienna, 1892. He had experimented with it in the hope of finding in it a cure for lupus. He injected hypodermically a fifteen-per-cent. alcoholic solution into the muscular tissue between the shoulder-blades. A fine needle was used, and the injection was made slowly and deeply. The beginning dose was from half to three-quarters of a grain, and this was injected twice a week. In lupus cases the dose was increased in the third or fourth week to half or the whole of a hypodermic syringeful of a fifteen-per-cent. solution, equivalent to from a grain and a half to three grains of thiosinamine twice a week. These doses are as well borne as so much distilled water but they always produce a visible curative effect. In a few cases he went as high as one and a half or two syringefuls, with no bad effect. Keitel and Richter used a fifteen-per-cent alcoholic solution; and Van Hoorn, on the recommendation of Professor Duclaux, of Paris, has used a ten-per-cent. solution in equal parts of water and glycerin—this is just as active as the alcoholic solution, and not nearly as painful.

Hebra, as has been said, rarely reached three grains; the writer has never exceeded a grain and a half; but the other observers quoted used four grains and a half as a regular full dose, beginning, of course, with smaller ones. We should not try to give the largest doses that will be tolerated, but rather the smallest that will produce the therapeutic effect.

In Keitel's case and in Tousey's the injections were into the muscles of the arm and forearm; there were no ill effects. The others all made the injections into the muscles of the back.

If an alcoholic solution is used, there is sharp pain lasting for less than a minute. This may be somewhat diminished by pressure to diffuse the solution through the tissues.

It is desirable to discontinue treatment for ten days every six weeks or two months.

The physiological effect of thiosinamine in man is in a general way that of a very mild tonic. If the subject is perfectly sound, there are no symptoms at all produced by the injections; and if there is a lesion present, the reaction which may occur is local and is not accompanied by any general symptoms. Especially, there is never any febrile movement. There is in all cases a tonic effect with an increase in weight. Hebra states that absorption is very rapid, since his pa-

tients noticed a garlicky taste in the mouth within a few minutes. The same author has noted an extraordinary diuresis, the increase in the daily amount of urine being 200 to 500 cubic centimetres. In no case were there renal symptoms, or albumin or other pathological product in the urine. This diuresis ceases after a number of injections. He thinks it is a therapeutic action and ceases after abnormal fluids have been eliminated. Van Hoorn and Keitel, who both used large doses, noted after several weeks' treatment the onset of nausea, headache, and lassitude. The author has had no such experience, probably because he used smaller doses.

There has been only one accident reported from the subcutaneous use of thiosinamine. It consisted in the production of temporary cutaneous anesthesia, and was observed by Keitel.

As to the curative action upon lupus, Van Hoorn and Hebra observed a very great effect indeed wherever the superficial area of disease was great. Ulcerations healed, and the thickened and nodular edges flattened out. No case of complete cure is reported, and where the area involved was quite small —lupus of the cheek of the size of a dime— it was hardly influenced at all. Richter has seldom seen any effect at all upon lupus. In Tousey's cases no "reaction" has been noted, but he has uniformly seen a diminished vascularity and a softening of the edges with healing of the ulcer. The local treatment is a better means of handling lupus than the use of thiosinamine.

Its therapeutic application in clearing up corneal opacities has been attended with almost perfect success in the hands of all the investigators. Hebra had a patient who, before the injections, could hardly avoid collisions with people on the street, and afterward the acuteness of vision had so increased as to enable him to tell the direction of the wind by the weather vane on the high Rathausthurm in Vienna. He and Richter report a number of such cases, and give the formulas for vision before and after treatment, demonstrating a remarkable increase. The cases for which it is unsuitable are those in which a vestige of inflammation is still present and might be started up into fresh phylctenulæ.

In the treatment of cicatricial contractures, thiosinamine acts by causing absorption of the fibrous tissue, whether located in the skin or in deeper parts—such as tendons and ligaments; and all the authors cited report complete cures of such cases. Among these are ectropion following lupus of the cheek, partial anchylosis of the knee from lupus, and talipes equinus following an injury (burn) of the leg. One case of ectropion was so marked that the eye could not possibly be closed; the tarsal cartilage was so rarefied by pressure and traction as to be scarcely perceptible, and even the corner of the mouth was drawn up toward the eyelid. This patient was restored to a normal condition, and the skin of the cheek became soft and freely movable on the subjacent tissues. In another case of Hebra's there was such contracture following lupus of the palm that the finger-nails grew into the flesh; complete extension was possible after about twenty-five injections, no other treatment having been employed. It was this wonderful absorptive power over cicatricial tissue which suggested to Tousey its use in keloid and malignant neoplasms.

In the treatment of simple ulcers and of stricture of the urethra, Richter's half-dozen cases, with an average of eight injections, gave negative results; but the writer does not regard this as final. In the case of stricture of the urethra or rectum, he believes thiosinamine might be a very valuable adjunct to local treatment.

Its action upon chronically enlarged glands has been observed by Hebra, and it is said to cause a very rapid absorption. In syphilitic cases, on the other hand, absorption was not effected; and he believes that this may in some cases be of diagnostic value. It has been used with success for uterine myomata. It has been used with negative results in eczema, psoriasis, and lupus erythematosus.

The writer then details the following case as an ideal non-operative treatment for these neoplasms:

The first patient was a mechanic, thirty-two years old. In September, 1893, his left arm was burned from shoulders to finger. An area about four inches and a half in diameter immediately above the elbow healed by granulation, the rest being more superficial. About four months after the accident the cicatrix began to itch and burn, and very soon a hard, prominent mass had formed in the scar. When he was admitted to St. Bartholomew's Clinic, July 7, 1894, he presented a typical keloid, consisting of two areas, each of the size of a silver dollar and projecting three-quarters of an inch above the surface. These were on the flexor aspect of the arm just above the bend of the elbow. The treatment consisted

in hypodermic injections into the left biceps twice a week. It should be mentioned that he applied for treatment because of impaired motion at the elbow. The beginning dose was two-thirds of a grain of thiosinamine, in ten-per-cent. solution in absolute alcohol, and the highest dose used was a grain and a half. These injections produced no special effect except on the neoplasm, which after one or two treatments became very much paler, and after twelve injections one portion had lost its thickening and induration—this part was then visible as apparently normal skin, but a little paler than the rest. The other area gradually changed to the appearance of normal skin. The cure was complete after twenty-seven injections had been made. Complete use of the arm was restored, and there was no thickening or adhesion of the skin, though the cicatrices were, of course, still recognizable.

To recapitulate: We have in thiosinamine a drug producing, when given hypodermically, no general symptoms, and even when long continued no harmful effects. It acts specifically upon certain abnormal tissues to cause their absorption or conversion into normal tissues. It is of doubtful efficacy in lupus and a variety of skin diseases. But it is of the greatest possible value in the removal of cicatrical contractures following lupus or any other cause of loss of substance. The frightful contractures from burns of the neck would yield to its action, as cases of ectropion and corneal opacity do. The writer's own cases have shown its curative effect upon keloid and its palliative and probably curative effect on malignant tumors.

A DRESSING OF CHARCOAL MADE FROM RICE STRAW.

In the March number of the *Archives de cliniques de Bordeaux*, Dr. J. J. MATIGNON, of the Imperial Russian Legation at Pekin, states that M. Kikuzi conceived the idea of employing charcoal made from rice straw during the summer of 1891. It was employed with great success in the last campaign in the civil and military hospitals of Japan, in the latter of which its use is obligatory. It was also used during the earthquake at Mino-Oware.

This dressing is a dark-brown, almost black, powder, and its qualitative analysis gives potassium, sodium, aluminum, and calcium salts, iron, chlorine, sulphur, phosphorus, silicates, and organic substances. M. Kikuzi found that its absorptive power was considerable and that it was very elastic. Its application was easy, and a regular and equable compression can be made on all parts, especially if the precaution is taken to inclose it in small sachets.

In regard to its disinfection, says the author, the mode of preparation is in itself a perfect disinfecting process. In order to obtain good charcoal from the straw, it is prepared in the same way as for ordinary charcoal—that is, by slow combustion. When this is accomplished the charcoal must be spread out to cool, and separated as much as possible from the ashes. As charcoal readily absorbs and retains moisture, this dressing should be employed fresh.

With regard to the mode of applying it, says Dr. Matignon, sachets of fine linen which have been disinfected are filled with the powder and laid over the wound after washing and disinfection have been practiced. The shape, size, and thickness of these sachets should depend on the regions on which they are to be placed. It is advisable to fill the sachets at the time they are to be used, although they will keep for several weeks if enclosed in a metal box.

Dr. Matignon thinks that charcoal presents the following advantages over gauze: 1. Its absorbing power is greater. 2. It is found everywhere, and is rapidly obtained in large quantities. 3. Its disinfection is perfect, and it can be used immediately. 4. Its elasticity is equal to that of gauze. 5. It is very inexpensive, and common straw may be used if it is impossible to get rice straw.

This dressing, says the author, is particularly adaptable to army surgery, as its preparation is rapid and its aseptic qualities are perfect.—*New York Medical Journal*, May 2, 1896.

SURGICAL TREATMENT OF CARBUNCLE.

O'CONOR (*New York Medical Journal*, May 2, 1896) states that during the past three years it has fallen to his lot to treat twelve cases of carbuncle—six on the nape of the neck, two on the buttock, two on the back, one on the perineum, and one on the face; in each instance the treatment adopted was excision, supplemented in four cases by erasion.

The operation is carried out in the following manner:

1. The patient having been placed under ether anesthesia, a deep incision is made around the whole circumference of the car-

buncle, at least half an inch outside the infected area. Luckily, carbuncles, as a rule, do not occupy parts where there are any large blood-vessels; therefore there can be no excuse for stinting the depth of this incision.

2. With the handle of a scalpel or a periosteal elevator, the carbuncular mass is undermined, elevated, and removed, in the same manner as a tumor of the breast.

3. Sometimes it happens that the disease has extended too deep and cannot be isolated from the surrounding structures; in such a case, after all has been removed that can be with the knife, strong scissors are brought into action, and the business is finished with a sharp Volkmann's spoon. Not a trace of the disease should be left.

4. In order to contend with any microscopical particles that may have escaped this process of eradication, the whole surface is to be swabbed with a solution of zinc chloride, forty grains to the ounce. Of course, this is only used in cases that do not admit of a clean removal.

5. A large circular wound is generally left; this is painted with a solution of carbolic acid, alcohol, and methyl violet, one part of each, in water, ten parts. It is then dusted with iodoform, packed with iodoform gauze, and bandaged.

6. When the granulating wound comes level with a surrounding skin, Thiersch's grafts are applied, which considerably hasten the cure.

Needless to say, this operation is not by any means a bloodless one, but with a steady assistant armed with a dozen pressure forceps there is no need for alarm. Any vessels that merit it are tied; the general oozing soon ceases with the pressure of a sponge soaked in hot water.

Out of the twelve cases, in eight the carbuncle was cleanly excised; the remaining four required the scissors, spoon, etc. In not a single instance did the disease recur in the wound; constitutional symptoms, in some cases severe, vanished in twenty-four hours. In fact, it is hard to realize that a patient so deep in the throes of septicemia can be restored to his normal state in such a short space of time. No other method that the author has ever tried or heard of equals complete excision in this respect.

O'Conor then details a case in which he practiced this treatment successfully, and terminates the paper by saying that having obtained such remarkable results by excision, he is impelled to question the dictum of so good an anthority as Mr. Jonathan Hutchinson, Jr., in Treve's System of Surgery, page 713. This gentleman writing on the treatment of carbuncle, states: "An ancient plan of treatment of carbuncle has, however, been lately revived, consisting in cutting with scissors and scraping away all the slough in the belief that this shortens the healing process. Undoubtedly, some time and perhaps considerable pain are occasionally saved by this plan; but, on the other hand, the risk of opening up the veins and causing pyemia appears to be distinctly increased, and many surgeons have on this account abandoned it." O'Conor explains the occurrence of pyemia as due to half-hearted operations where the disease was not thoroughly cleaned away, or to operations undertaken too late, when the pyemic virus had already entered the blood. So far he has not heard of pyema following Barker's operation in psoas abscess, scraping away suppurating inguinal glands, or the opening up and scraping of large abscesses on the thigh, where the process is somewhat identical.

The grounds for his criticism are: First, that he does not think there is any scientific foundation for the remark just quoted as to the possible dangers; secondly, he is a strong believer in the doctrine that, in every instance in surgery where there is a grave constitutional depression, prompt measures ought to be taken, and, if possible a "clean sweep" made, not only of the micro-organisms, but of their camp. To dilly-dally, in the hope that painting with iodine may eventually conquer, is a species of surgery that must be attended with disaster.

SURGICAL TREATMENT OF DISEASE OF THE LIVER.

BOLOGNESI (*Bulletin Général de Thérapeutique*, March 30, 1896), in concluding a series of papers upon this topic, holds that the true surgical treatment of hydatid cysts of the liver consists in direct incision made by the anterior abdominal route, by the transpleural route, or by the lumbar incision. Median or lateral laparotomy should be reserved for antero-inferior or antero-superior cysts. By combining this operation with resection of one or more ribs, some diaphragmatic cysts may be reached if they are not too deeply situated. The transpleural route with resection of the ribs is the best way of reaching subdiaphragmatic cysts which are deeply

placed. If this route is employed, two or three inches of the median portion of the seventh, eighth or ninth rib may be resected. There is apparently little danger of pneumothorax, if the thoracic wall be firmly pressed upon while the pleura is being cut through. The diaphragm is then incised, and the borders of this incision are held out until the two pleural surfaces are sutured together. The operation is terminated by the evacuation of the cyst, which is treated by opening, washing, and draining.

Lumbar incision allows the surgeon to reach cysts in the posterior and lower part of the liver.

Incision and drainage is the only procedure possible for postero-superior or postero-inferior cysts treated by the transpleural or lumbar route. The antero-inferior cysts should also be subject to this treatment when they are adherent, friable, or when the thinness of the hepatic envelope prevents resection.

Incision combined with partial excision of the walls is only practicable in the treatment of cysts reached by laparotomy—that is, the antero-inferior and antero-superior cysts.

Complete enucleation of the cyst is very exceptionally practicable. When there is found a mass of small conglomerated cysts it is possible that resection of the portion of the liver thus degenerated may be indicated. This should be performed by means of an extra-peritoneal elastic ligature.

Movable liver is a rare affection. There is no indication for intervention when it can be held in place by an apparatus. But one lobe of the liver may be movable, or the entire organ may be easily displaced. If the gall-bladder is distended, cholecystotomy is indicated, this operation being sufficient to cause shrinking of the enlarged and floating lobule. Ablation of the lobule, unless it be very distinctly pedunculated, is not indicated. Partial hepatopexy has been twice practiced by Langenbuch, the right lobe being the movable portion of the liver. In the first case a horizontal incision was made through the abdominal wall parallel to the lower border of the liver near its proper position, then the lobe was secured in place by silk sutures traversing the thickest part of the liver and the muscular walls of the abdominal parietes. The colon was likewise fixed to the parietes. This patient was cured. In his second operation Langenbuch made a horizontal incision along the lower border of the ribs, and fixed the liver to the costal cartilages by eight silk sutures which traversed all the thickness of the gland and the corresponding cartilages. This patient, who had previously undergone a nephropexy for the right kidney, was completely cured.

The operation for fixing liver completely is conducted by making an incision parallel to the costal cartilages of the right side along the external outer border of the right rectus muscle; the liver having been placed in proper position, and held there by the hand of an assistant, four silk threads are passed through it two or three centimetres from its sharp anterior edge, their lower ends being brought through the lower border of the abdominal incision, and their upper ends carried through the costal cartilages and the overlying tissues; these threads are then knotted, and the belly is closed. The patient operated on by Marchant was made definitely well.

Gerard states that tumors of the liver should, from experimental grounds, be amenable to treatment.

Ponfick, Grim and Glück have shown that animals can survive after removal of over half the liver. Ablation of fibromata and lipomata is perfectly justifiable. Angeiomata, when encapsulated, may also be removed, but it should be borne in mind that these tumors are always small and do not give rise to the least functional trouble. Primitive sarcoma is very exceptional, and will probably escape diagnosis in its removable stage. Segond holds that surgery can do little for primitive cancer; Hochenegg, on the other hand, had one successful case living after eighteen months. The main operative difficulty in these cases is hemorrhage. This is best avoided by the use of elastic ligature and the extraperitoneal treatment of the pedicle.

SYPHILITIC INFECTION.

MRACEK (*Wiener Klin. Rundschau*, Jan. 12, 19, 26, 1896) has reinvestigated this subject, and relates two cases, in one of which the second attack developed ten years, and in the other four years, after the apparent cure of the first. He concludes that there are unmistakable cases of syphilis in which the disease is completely cured, and hence can be again acquired; it is, however, to be noted that the physician has no criterion which will permit him to say definitely when the patient is free from it. The author collects in tabular form all the cases of reinfection which he has been able to find in literature, in order to ascertain as exactly as possible the average

lapse of time between the attacks; the duration is, however, so favorable that no reliable deductions can be drawn. The author questions the currently accepted doctrine that a second attack of syphilis is milder than the first: one of his own cases, and many others in literature, directly contradict this view. He finds, however, that in cases of reinfection the cure of the first attack was always attributable to mercurial treatment, and deduces that no established case of syphilis should be dismissed without a thorough and satisfactory mercurial course.—*British Medical Journal*, April 18, 1896.

SUTURES OF ABDOMINAL WOUND IN OVARIOTOMY.

SOLOVIOFF (*Vratch*, No. 46, 1895) read a paper before the Moscow Surgical Society last October on the subject of unfavorable results following even the most careful application of sutures after ovariotomy and other abdominal sections. He had been accustomed to pass wire sutures through the entire thickness of the wound, and between them superficial silk sutures. In one case, however, a wire gave way, and when the dressings were changed a piece of omentum was found protruding through the wound. He now closes the peritoneum with silk, and then unites the superficial layers with the same material. Unfortunately, suppuration of the tract of the deeper sutures sometimes takes place.

Warnek thinks that germs may have entered the wound, or that the deep sutures had been drawn too tight. Boboff has seen suppuration even when the suture material had been most conscientiously sterilized. Pavloff most aptly refers to the case of the pedicle of an ovarian tumor, where the ligature is always pulled tight, yet suppuration is rare; the pedicle is carefully dropped down into the pelvis after ligature, where it remains safe from germs and from handling. The abdominal wound, however, is of necessity exposed all through the operation. Suppuration of suture-tracks, then, is more probably due to bruising and to microbes than to the tightness of sutures.—*British Medical Journal*, April 18, 1896.

A CASE OF AXIAL ROTATION OF THE TESTIS.

SHEEN (*London Lancet*, April 11, 1896) reports the case of a youth, eighteen years old, who jumped over a hedge after a tennis-ball on July 5, 1895, but felt no ill-effect at the time. On the 6th, at 3 A.M., he awoke with severe pain and swelling in the testicle, which was all right when he went to bed. The writer saw him on the 9th in consultation, when the testicle was found to be considerably enlarged and somewhat tender; the temperature was normal, although it had been up to 103°. Immediate incision into the tunica vaginalis was made on the 11th. On operation a dark-red mass like blood-clot was found, but was not removable, and the testicle was swollen to the size of a small orange, globular in shape. All antiseptic precautions were carried out. The case pursued an aseptic course, the temperature being normal throughout. The stitches, however, gave way and a hernia of the testis resulted; there was no pain. The dead tissue was dry and was cut away with scissors. There was no sensation, common or testicular. It was obvious that the testicle was useless, and it was removed on August 8; on the 20th the wound was dressed for the first time and the stitches were removed, the parts being nearly healed. The patient got up for a time day by day, was out for the first time on the 28th, and went home about the middle of September.

The specimen was sent up to the Clinical Research Association, who returned the following report: "The specimen is an example of that rare condition described as torsion of the testis. The substance of the body of the testicle is healthy in itself; there are no signs of chronic inflammation, syphilis, or tubercle. Section of the epididymis shows an abundant extravasation of blood into its tissue, but there is no other lesion. This hemorrhagic infiltration is due to twisting of the spermatic cord and vessels (the result of injury), and gives rise to acute swelling and pain, so that cases have been mistaken for herniæ."

There was no question of hernia in this case. The writer's diagnosis was hemorrhagic orchitis. Had the condition been recognized when first seen, the cord might perhaps have been untwisted, as was successfully done in a case recorded by Mr. G. Nash (*British Medical Journal*, April 9, 1893). A year or two ago, at a meeting of the Medical Society of London, Mr. Edmund Owen brought together references to fourteen cases which have been recognized during the past few years, and said that, as a rule, "it is only the unhappy possessor of an undescended testicle that gets into this very peculiar kind

of trouble. It is almost as if Nature herself, disappointed with her imperfect work, was anxious to cast it down a Tarpeian rock." Mr. Bryant, in reporting a case, surmises that certain cases of atrophied testicle have been examples of axial rotation, the nature of which has been originally overlooked. Twisting the cord in the lower animals is the French method of producing atrophy of the testes and sterility.

THIRTY-FIVE CONSECUTIVE CASES OF STRANGULATED HERNIA; ONE DEATH.

THOMAS (*London Lancet*, April 11, 1896) has operated upon twenty-five cases of strangulated hernia, with but one death as the result of the operation. Twelve of the cases were men, thirteen women. Six were over sixty years old, three over seventy years. The period of strangulation varied from ten hours to five days. In the worst cases, and in the old people, Czerny's radical cure, a simple ligature of the sac, was performed. Mac Ewen's method was used in the younger patients. Two cases had congenital inguinal sacs, and the portion cut off from each for a tunica vaginalis was closed with a continuous catgut suture.

Special attention was paid to disinfection of the contents of the sac as soon as the latter was opened and before any attempt at reduction was made. This was always accomplished by freely washing the fluid away with hot 1:40 carbolic lotion, until every shred of lymph and blood-stained material was thoroughly removed from amongst the coil or coils of intestine and the interstices of the omentum. Silkworm-gut sutures, double cyanide gauze, wood-wool tissue, and a suitable bandage or binder, were used. In only two cases were there complications. A fecal fistula formed once where the wound suppurated; this was due to contamination with ammoniacal urine from a hernia of the bladder which complicated the case. In only one case did the patient complain of pain, although no morphine was given after the first two cases. This pain yielded at once after the administration of a brisk saline purge. During the first twenty-four hours, sips of warm water were given.

Should flatus continue until the end of this period (twenty-four hours), starvation is persisted in until it passes off. If flatus is passed, half a pint of beef-tea is granted during the next twenty-four hours; then, if all goes well, half a pint of milk is added the next day, increased by half a pint daily until two pints of milk and half a pint of beef-tea are reached, generally by the sixth or seventh day. The patient is kept upon this until the bowels act. If by the ninth or tenth day no action of the bowels has taken place, a dose of compound liquorice powder is given. The diet is now increased by the addition of fish, then beef-tea, chicken, a chop, and common diet by the end of the second week.

Patients were kept in bed for six weeks to allow of a firm cicatrix forming. In some of the older patients, particularly when much collapsed, a teaspoonful of brandy in a little warm water was given every hour for the first day.

One patient died on the night of the operation, from collapse. This was a case of umbilical hernia, much exhausted by vomiting. The operation lasted only a few minutes, no attempt being made at radical cure, merely two sutures passed through the skin and sac to close the aperture. The second fatal case, aged seventy-six, died on the sixth day from coma gradually coming on from kidney disease.

OBSERVATIONS UPON ACQUIRED HYDRONEPHROSIS.

CABOT (*Boston Medical and Surgical Journal*, April 23, 1896) states that any obstruction in the urinary passages between the kidney and the outer air may cause an accumulation of urine in the renal pelvis and lead to a hydronephrosis. It is with the obstructions in the upper part of the ureter due to some acquired mechanical disarrangement of that tube that his paper has to do.

Whether these acquired, non-congenital cases of hydronephrosis are due in any part to congenital malformation or malposition of the ureter, is a matter which in most cases must remain in doubt; for when the cases come to autopsy the acquired changes, due to the pressure and displacement of parts by the great accumulation of fluid, mask and make doubtful the original condition.

Two forms of obstruction are found in these cases. These are: valvular folds at the entrance of the ureter; and contortions of this tube in the first part of its course which favor the kinking and closure of it when the heavy kidney presses down upon it.

As to the valvular folds at the ureteral orifice, their etiology is somewhat doubtful. Virchow regarded the condition as conse-

quent upon congenital oblique insertion of the ureter in the pelvis, while Simon thought this slanting insertion was an acquired condition due to the stretching of the pelvis and the pressure of it down towards the ureter. Küster believed that an inflammatory swelling of the pelvic mucosa was necessary to assist Simon's displacement in forming a valve; he thought the swollen mucous membrane was shifted somewhat on the submucosa and so partly pushed over the ureteral orifice. Hansemann explains the valve-formation by the pull of the kidney upon the comparatively immovable upper part of the ureter. It is plain that if this part of the ureter is fixed, as Englisch asserts, and the kidney then sags downward, the ureteral opening is carried downward and a valvular condition produced.

Hansemann's explanation seems applicable and satisfactory in many of the cases, and accounts for the not infrequent association of hydronephrosis with mobility of the kidney. It also helps us to understand those instances in which by change of position an escape of the retained fluid is brought about. As the valve is usually formed by the falling of the kidney downward, Hansemann recommends raising the hips of the patient in order to correct the condition. It is, however, to be remembered that the displacement of the ureteral orifice may be upwards or to either side if the pelvis dilates unequally in different parts, and in such a case some other than the inverted position may straighten the orifice. In one case, at autopsy, a hydronephrotic kidney had caused the orifice to be so displaced upward that it was only made patent when the pelvis contained considerable fluid and so dragged the kidney down by its weight. This condition was tested by the injection of varying quantities of water, and it was found that a certain amount of distention of the pelvis was necessary to alter the orifice so as to allow of the escape of fluid through it.

The effect of position in relieving such mechanical obstructions may also be helped by kneading and moving the tumor about, and in these ways relief may sometimes be obtained in those cases of intermittent hydronephrosis where the valve is not a very perfect one.

The hydronephrosis sometimes owes its origin to some temporary condition, as, for instance, to the stopping of the ureter by a blood-clot, by an inflammatory swelling, or by other pressure from without. If now this temporary cause be removed, the weight of the hydronephrotic sac may be sufficient to keep up the obstruction by maintaining the valvular condition by the downward pull of the kidney. Under these circumstances a very thorough aspiration, by relieving the weight, may suffice to correct the condition; and, indeed, a certain number of cures are obtained in this way.

Drainage of the sac through an incision in the loin is a more efficient means of treatment in such cases, for the constant escape of the fluid gives the sac an opportunity to shrink up and resume it more natural contour. Moreover, nephrotomy affords an opportunity for drawing the kidney up to the loin and fixing it there, thus preventing any further sagging down. In this way cures have been obtained, and Weir, Peters, Tuckwell and Cabot have been fortunate with this method more or less perfectly carried out.

The disadvantage of this method is that, in case the obstruction for any reason remains, the patient is annoyed by a persistent urinary fistula. With the fear of this result in view, it is natural that attempts should be made to surgically correct the valvular condition. Unsuccessful attempts to relieve the valve at the entrance to the ureter were made by Simon prior to 1876, by Trendelenburg in 1890, and by Küster in 1891. In Simon's and Trendelenburg's operations the ureter was slit up for a considerable distance as it lay alongside the pelvic wall, and then an attempt was made to unite the divided borders of the ureter to the lower part of the pelvis. Küster began his operation on the same plan, but, finding a stricture, ended by resecting the upper end of ureter. All of these cases resulted fatally.

In May, 1892, Fenger did a successful operation for valve-formation by cutting through the fold that made the valve, and so applying the sutures as to convert the longitudinal cut into a transverse wound. He left a bougie in the ureter for two days, and stitched up the kidney that was movable. Mynter has since done a similar operation, likewise with good result.

These cases are too few to enable us to reach any decision as to whether this is the best way to correct this condition. We must remember the etiology of the valve-formation, and must accept the fact that many cases have recovered after a simply nephrotomy with fixation of a movable kidney. We may feel, however, that if a distinct valve-formation is found, Fenger's method of divi-

sion may be practised without adding materially to the danger of the operation, for the chance of infiltration of urine must be slight when the tension is wholly removed by lumbar drainage. These operations are certainly attempts in the right direction, for they seek to re establish the function of the kidney; while a nephrectomy, whlch is the last resort in these cases, in an unscientific proceeding when it removes an organ still doing good work.

We come now to consider the other form of obstruction due to the mobility of the kidney. A tortuous condition of the upper end of the ureter may be associated with a very movable kidney. This happens so often that it is probable that the twisted condition of the ureter is dependent on the mobility of the kidney. Sometimes, too, an obstruction in the lower part of the ureter leads to a dilatation of the upper part of that canal, which in this case becomes tortuous and may lead to an actual torsion. If, from twisting or kinking, a retention of urine is caused and leads to an accumulation in the pelvis, the heavy kidney pressing down towards the already twisted ureter aggravates the previously existing condition and produces a permanent stoppage. The point of obstruction in this case may be at some little distance from the pelvis. Under such circumstances a good result may perhaps be attained by frequent aspirations, which, emptying the kidney, allow of a shrinkage of the pelvis and in this way pull up the ureter into place. A nephrotomy, however, offers a much better chance of cure, for by drawing up and fixing the kidney in the loin it tends to straighten the ureter and so to restore its calibre.

If, however, the ureter is so slack and tortuous that its condition does not seem to be remedied in this way, it might even be worth while to resect the upper part of the ureter and, after straightening the tube, to insert its upper end into the pelvis in the manner practiced by Küster and recommended for correction of this condition by Tuffier. This is, however, an operation difficult of performance and not devoid of danger.

As a less dangerous proceeding, the writer would suggest that this tortuous condition can be corrected by inserting a bougie and leaving it *in situ* for several days. In this way the various curves of the canal are effaced while the pelvis is contracting and pulling it into shape. Furthermore, a moderate amount of inflammation is set up in the walls of the ureter which stiffens them, attaches them to the wall about, and thus tends to keep the form given to the tube. The writer has carried out this plan of operation in one case, and with so much success that he reports it as a suggestion for future trial.

The case was that of a woman thirty two years old. For three years she had noticed a tumor which was extremely movable. Abdominal section was performed, and, with the hand in the abdomen guiding, the aspiration needle was introduced through the loin, and the sac entirely emptied. At the end of two weeks the tumor began to re-form. The kidney was then opened in the loin, and the ureter could be seen emerging from a cyst by a funnel-shaped opening and running in a tortuous course down through the pelvis. An elastic bougie (No. 6 French) was introduced into the ureter and carried down in the neighborhood of the bladder. The sac was sewed at the edge of the wound through the muscle with continuous catgut. Drainage was introduced into the pelvis of the kidney, and the bougie was left *in situ*. The bougie was removed at the end of two and a half days, and the drainage tube after nineteen days. The sinus finally closed about a month later.

The author considers this case interesting because of the considerable degree of activity retained by the kidney so long affected by a very great dilatation, and also because of the success which attended the treatment of the ureter. The restoration of the permeability of the canal was due to the bougie assisted by fixation of the sac in the loin, and has persisted for seven months.

TEN CASES OF CANCER OF THE UTERUS OPERATED UPON BY A MORE RADICAL METHOD OF HYSTERECTOMY.

J. G. Clark, in an admirable report in the *Johns Hopkins Hospital Bulletin* for February and March, 1896, says with regard to mortality and regionary recurrence: In thirty-seven cases of cancer of the cervix the results were as follows: Ten per cent. died from the immediate effects of the operation, thirty-eight per cent. died with recurrence, five per cent. were not heard from, and forty-three per cent. were still alive after a period of one to five years.

In none of the fatal cases could a distinct history of metastasis to other organs be elicited, but all died from local recurrence.

This clinical observation is further substan-

tiated by the records of ten autopsies on inoperable cases, made in the Pathological Department of the Johns Hopkins Hospital, which show metastases in only one case beyond the pelvic and retro-peritoneal lymph-glands.

In four cases there were carcinomatous deposits in the pelvic and retro-peritoneal glands; and in five cases, notwithstanding the most extensive local involvement, there were no metastases.

The systematic steps laid down in Clark's first article remain practically unchanged, notwithstanding the introduction of certain modifications which have been found necessary for the most complete eradication of the disease in the course of the operations in the eight cases now reported.

The operation is not an easy one, and every detail should be worked out on the cadaver before it is attempted on the living subject.

It requires at least two hours and a half for completion, and on account of the close proximity to the great vessels in the pelvis, especially the external iliac veins and arteries which must be preserved from injury during the course of the excision of the broad ligament, is tedious and involves the most painstaking care if the best results are to be obtained. If the operation is carried out properly in all of its details, especially those relative to the dissection of the uterine arteries and ureters, the field of operation must be perfectly illuminated, either by the brightest sunlight or by a good electric light. The close anatomical relations of the bladder and rectum to the uterus necessarily preclude the possibility of any operation if the cancerous process has invaded either of these organs, but fortunately the tendency of this disease is to extend laterally into the broad ligaments before it invades the walls of either the bladder or rectum; and notwithstanding the rather extensive involvement of the broad ligaments, the operation promises good results if the cancer has not extended outside of its cervical limits anteriorly or posteriorly.

So far there have been no deaths from the immediate primary effect of the operation, and this result is attributable to the great care observed in immediately checking all bleeding, preventing shock by keeping the patient warm during the operation, and injecting normal salt solution beneath the breast and into the rectum at its close.

The summary of steps in the operation is as follows:

1. Insert bougies into the ureters under the local effects of cocaine, to save time and conserve the patient's vital powers for the operation.

2. Place patient in Trendelenburg's position, and make abdominal incision of sufficient length to insure free manual movements.

3. Ligate upper portion of broad ligament with ovarian artery; divide vesico-uterine peritoneum around to opposite side; push bladder off, and spread layers of ligament apart, exposing uterine artery.

4. Dissect uterine artery out for 2½ centimeters from uterus beyond its vaginal branch, and tie.

5. Dissect ureter free in the base of the broad ligament.

6. Ligate remainder of broad ligament close to the iliac vessels, and cut it away from its pelvic attachment.

7. Carry dissection well down below carcinomatous area, even though cervix alone seems to be involved.

8. Proceed on opposite side in the same manner as on the first side.

9. Perforate vagina with sharp-pointed scissors, making strong traction on uterus with small volsellum forceps so as to pull the vagina up and make its walls tense, then ligate in small segments of one centimetre, and cut each segment as it is tied.

10. Insert iodoformized gauze from above into raw space left by the hysterectomy; draw vesical and rectal peritoneum over this with a continuous fine silk suture.

11. Irrigate pelvic cavity, and close abdomen without drainage.

In the first case reported it was found impossible to insert the bougie into the ureters, and the operation had to be proceded with without this valuable aid Cases occasionally occur in which it is very difficult, or even impossible, to insert the bougies or catheters, and it is well to know in what way to proceed safely with the radical operation in the face of this obstacle. Under these circumstances the time consumed by the operation must of necessity be greater, as the most careful dissection is required to avoid ligating or cutting the ureters. If, however, steps 4 and 5, as given, are carefully followed, the ureters can be avoided safely and a thorough operation can be performed.

In cases in which the uterus has undergone senile changes, the uterine artery may be small and rather difficult to locate. To facilitate finding this vessel in such cases, a little manœuvre which was adopted in one case will be of great assistance. After ex-

posing the intra-ligamentary cellular tissue (step 3) the leash of vessels which radiates from the common trunk of the uterine artery and enters the loose cellular tissue lateral to the uterus is included in one ligature, when the artery back of this point at once becomes distended, turgid, and stands out quite prominently.

The dissection is then carried down along the course of the vessel, with the handle of the scalpel. In this way there is little danger of injuring the vessel, and by confining the dissection closely to the artery it is safely carried over the ureter, which appears as a glistening cord, to the internal iliac artery, where it is doubly ligated and cut.

By watching the ureter for a few seconds its identity is perfectly recognized by the characteristic rhythmical passage, from above downward, of peculiar serpentine waves, first noted by Dr. Kelly. The ureter is then bared through its course in the broad ligament; no fear need be entertained concerning the impairment of its nutrition by a close dissection, as it carries its own vessels. When the ureter is freed it can be lightly drawn out of the field of operation by a traction ligature while the operation is continued, or in some instances a more feasible plan is to push it out of harm's way against the pelvic wall.

The operations performed without the assistance of the bougies in the ureters can be made very thoroughly, but are infinitely more difficult, and are impossible in patients where the abdominal walls are thick and the pelvis deep.

There is the greatest comfort in having the danger of injuring the ureters completely eliminated from the operation by the presence of the bougies, which can be felt distinctly as solid bodies whenever it is necessary to determine the exact location of the ureter. The object of the careful dissection of the uterine artery (step 4) is two-fold—first, to permit a complete excision of the broad ligament; and second, to render the operation bloodless.

It has been found expedient to modify steps 6 and 7.

In order to expose most perfectly the lymphatic glands at the bifurcation of the external and internal iliac arteries, it is necessary to ligate and cut the broad ligament as close to the pelvic brim as possible.

In some cases, especially where the peritoneum clings closely to the pelvic walls, or is more or less fixed by an inflammatory process, it is found necessary. as one of the final steps in the operation, to split the peritoneum higher up, at the point where the ureter passes over the brim of the pelvis, in order to gain free access to the glands. This modification will be referred to further on.

After cutting the broad ligament away from the brim of the pelvis close to the iliac vessels, the excision should be carried down towards the pelvic floor, great care being observed to dissect out all of the intra-ligamentary glandular and cellular tissue with it. Especial attention should be paid to the glands at the bifurcation of the iliac vessels, which may not be visible but can be palpated. These glands should be enucleated with the fingers, and the greatest care must be observed in this part of the operation, as one of the glands is in the most dangerous proximity to the external iliac artery and vein. The usual plan is to leave these glands until the last part of the operation, when it will be found more convenient to remove them. When the excision of the broad ligament has been carried down to a point on the pelvic wall corresponding to a transverse line passing through the vesical orifices of the ureters, it is suspended, and the excision of the base of the ligament, which lies in such close relation with the bladder, ureters, and rectum, is completed later, from below upward.

After completing the operation on the opposite side in a similar manner (step 8), the vaginal puncture should be made.

Especial attention is called to the method of excising the portion of the vagina and base of the broad ligaments which are removed with the uterus.

It is exceedingly important to excise a large cuff of vagina; and to accomplish this with the greatest ease and thoroughness, an assistant should insert his finger into the vagina and definitely locate the margins of the cancer, and then, withdrawing the finger at least two centimeters below this point, make strong pressure upward against the anterior vaginal wall. With this assistance the operator is able to dissect down between the bladder and cervix and vagina, and perforate the vagina at the prominence made by the assistant's finger. Thus a wide area outside of the cancer can be excised.

The vagina is opened with pointed scissors, and the anterior wall is ligated in segments, and cut as far out as the ureters on either side. The ligatures must overlap so that a considerable area of tissue may thus be ren-

dered necrotic and thrown off. This makes the extent of the operation wider than that represented by the excised tissue.

From this point on, the operation must be continued with the greatest care. The thumb is inserted through the vaginal opening, if the left side is to be excised, and the index finger is carried behind the posterior layers of the broad ligament, acting as a guide to prevent inclusion of the ureter in the ligature, and also to indicate the farthest limit for the excision. By constantly pushing the ureter upward against the bladder with the thumb, one is able to continue the ligation and excision well out into the broad ligament beyond the vaginal wall and ureters, and thus make the most radical operation possible.

The opposite broad ligament is excised from below in the same way, when the uterus, broad ligaments and part of the vagina are removed *en masse*.

Before proceeding to step 10, the pelvic walls in the region of the bifurcation of the iliac vessels are inspected, and if any glands are palpable they should be removed. The following plan has been found of the greatest advantage in this part of the operation: The gland which is usually most prominent is about the size of a large pea or bean, and can be palpated distinctly in the crotch of the iliac vessels; this is worked out from its bed, and when traction is made upon it the lymph-vessel leading upward is made taut and acts as a guide to the next gland. By this procedure five glands have been removed in one chain. It is not possible to go over the pelvic brim, as the last accessible gland lies at this point, the next group of glands being situated higher up on the vena cava and renal vessels. In operable cases of cancer the metastases rarely go beyond these glands, and frequently, even in very advanced cases, they are not involved.

A further study of the pathology of this subject may show that the removal of these glands will be of value only from the same point of prognosis. If the glands are not readily exposed, a grooved director can be inserted beneath the peritoneum along the course of the ureter, when the peritoneum can be slit open as far as necessary to make the glands accessible and easily removed.

After enucleation of the glands and adjacent cellular tissue the operation is completed according to steps 10 and 11.

The analogy between cancer of the breast with its glandular involvement, and that of the uterus and its involvement of the broad ligament, is apparent to all, and the remarkably good results obtained by the radical operation on the breast and axilla have no doubt turned the attention of many operators to the possibility of a more radical operation for cancer of the uterus.

BARTHOLINITIS.

BERGH (*Monatshefte für Praktische Dermatologie*, bd. xxi, No. 7, 1895), in discussing inflammation of Bartholini's gland, shows that the inflammation is principally located in the duct of this gland. In addition to specific inflammation, there are other forms, namely, those due to streptococci and staphylococci. Usually the inflammation is gonorrheal in nature, and its complication is more common than blenorrhagic cervical catarrh. In very severe cases, mixed infection plays an important rôle, since pathological investigation has shown that the duct is essentially the part affected. True abscesses are rarely formed. More frequently pseudo-abscesses develop—that is, a collection of pus in the already formed cavity of the gland. The inguinal glands are not affected in pure bartholinitis, since the lymph-channels of these glands pass upwards to the uterus. It is only when there is coincidently with bartholinitis involvement of the skin and mucous membrane that the inguinal glands are inflamed.

As to the treatment, injections of a one-per-cent. silver-nitrate solution into the gland ducts after evacuation of the pus—in cases of abscess by puncture or incision, in case of chronic inflammation by extirpation of the glands with closure of the space left by buried sutures—offers the best prospect for cure.

PREVENTION OF GONORRHEA.

VON NEISSER (*Centralblatt für die Krankh. der Hard und Sexual Organe*, bd. vii, heft 1, 1896; quoted from *Berl. Klin. Woch.*, 36, 1895) has theoretically confirmed the method of preventing gonorrhea advocated by Blokusewski-Daum. This method consists in dropping into the meatus, the lips of which are held open, two drops of a ten-per-cent. solution of nitrate of silver. One drop is allowed to run over the frenum. Fifty patients adopted this treatment without experiencing the least irritation. Five seconds' application of this solution always inhibited the growth of the gonococcus when cultivated in artificial media. Weaker preparations are unreliable.

Reviews.

A TEXT-BOOK OF BACTERIOLOGY. By George M. Sternberg, M.D., LL.D. Illustrated by heliograph and chromo-lithographic plates and engravings.
New York: William Wood & Co., 1896.

We are told in the preface to this large and exhaustive work of nearly 700 pages that it is practically a condensed second edition of Dr. Sternberg's "Manual of Bacteriology," which was published in 1892 and which was received so favorably in this country and abroad because of its thoroughness and the high reputation of its accomplished author.

In preparing this so-called text-book of bacteriology, Dr. Sternberg has expunged the detailed descriptions of non-pathogenic bacteria and the extensive bibliography contained in his Manual, and has endeavored to make this volume more useful in many ways to students of medicine and to the busy practitioner.

The volume is divided into four parts: the first treats of Classification, Morphology, and General Bacteriological Technology; the second of General Biological Characters; the third of Pathogenic Bacteria; and the fourth of Saprophytes.

In Part I, as its title indicates, there are twelve chapters, the first of which is historical in character; the remainder are on Culture Media, Methods of Sterilization, Incubating Ovens, Experiments upon Animals, and Photographing Bacteria.

In the Second Part we have chapters upon Structure, Motions, Reproductions; Conditions of Growth; Modifications of Biological Characters; Products of Vital Activity; Ptomaines and Toxalbumens; Antiseptics and Disinfectants and their Actions; Influence of Physical Agents; the Action of Gases and the Haloid Elements upon Bacteria; Action of Acids and Alkalies and Various Salts of the Coal-tar Products and of Blood-serum and other Organic Liquids; and finally practical directions for disinfection.

Under Part Three are discussed the Modes of Action of Bacteria; the Channels of Infection; Susceptibility and Immunity to the Various Specific Micro-organisms of a Pathogenic Character.

In the Fourth Part appear chapters on Bacteria in the Air, Water, and Soil; Bacteria on the Surface of the Body and Exposed Mucous Membranes; Bacteria of the Stomach and Intestines; Bacteria of Cadavers and of Putrefying Material from Various Sources; and, finally, a chapter upon Bacteria in Articles of Food.

The volume is from beginning to end most copiously illustrated, and well printed. The text is unusually clear and easily read, and the plates are far better than are usually found in books of this character.

Altogether the book is one which adds still further to the already enviable reputation of its author, who brings not only executive but scientific ability to his office as Surgeon-General of the United States Army. Would that all public officers would and could serve the State and Science so well!

LECTURES IN PHARMACOLOGY FOR PRACTITIONERS AND STUDENTS. By C. Binz, Professor in the University of Bonn. Translated from the second German edition by Arthur C. Latham, M.A., M.B. (Oxon). Vol. I.
London: New Sydenham Society, 1895.

The first volume of Professor Binz's Lectures, published by the New Sydenham Society as an addition to their already most valuable series of translations, contains nearly 400 pages and deals with a large number of very important drugs, such as the anesthetics, morphine and the recent hypnotics, the bromides, coniine, curare, aconitine, the nitrites, iodine and its preparations, atropine, caffeine and digitalis, ergot and Calabar bean, strychnine, the ammonium salts, alcohol, and the ethereal or essential oils. The first chapter, or the introduction, is devoted to a consideration of the scope of pharmacology and a historical *résumé* of the subject. It seems to us that Binz scarcely does justice to Jackson and Morton when he states, in his chapter upon Anesthetics, that these gentlemen attempted to get a patent for the use of ether as an anesthetic, but that its odor revealed their secret and in this way they were prevented from obtaining the gain they sought. It is a pleasure to note that the lecturer has not overlooked the fact that as early as 1842 Long, of Athens, Ga., produced anesthesia by the inhalation of ether. Careful discussion of ether and chloroform from their chemical as well as their pharmacological points of view is then taken up, and although mention is not made of some of the more recent researches into chloroform, the chapter may be considered as being a fairly exhaustive and interesting one upon this subject, the author giving far more credit to American investigators than is common with many European writers. In our editorial columns reference is made to the fact, insisted upon by Professor Binz, that the potassium salts are more depressant

than the sodium salts; and from beginning to end of the volume we find, on looking up references in which we are interested, that its learned author has included pretty much all that is valuable in the theme which he has set himself to discuss.

We shall look forward to the publication of future volumes with interest, and can heartily recommend this one to American physicians and teachers as a scientific and useful addition to their stock of books of reference.

BORDERLAND STUDIES. By George M. Gould, A.M., M.D.
Philadelphia: P. Blakiston, Son & Co., 1896.

This volume of about 380 pages, which is, unfortunately, without an index, is a series of essays which the writer tells us are at present out of print, and which were taken from the editorial columns of the *Medical News* and the columns of the *Forum*, the *Monist*, the *Open Court*, and the *Transactions of the Council of the American Academy of Medicine*. Altogether twenty-four of these essays are contained in the volume. The first is upon Vivisection, and was delivered at the meeting of the Academy of Medicine in Atlanta in May, 1896. The title of this book is certainly appropriate, as we presume the author means to indicate that the essays are on the borderland of medical science.

Dr. Gould possesses a pen which seems never to be idle, and a writing centre which seems to be almost as active as the centre in the neighborhood of Broca's convolution. He brings to his writings not only the scholarly attainments which have, chiefly through his dictionary, reflected much credit upon American medicine, but also an enthusiasm which cannot fail to win for him much admiration even from those whom he has failed to convince of the correctness of all of his views in medical and other matters.

ARCHIVES OF CLINICAL SKIAGRAPHY. By Sidney Roland, B. A. (Camb.).
London: The Rebman Publishing Co., Limited, 1896.

As its title indicates, the object of this publication is to put on record in permanent form some of the most striking applications of the new photography to the needs of medicine and surgery; and Part I of Vol. I, after giving an explanation of the technique of the use of the Roentgen rays, the construction of the instrument, and similar facts, with an illustration of the instrument in working order, proceeds to the publication of the plates. The first of these is a large double-page plate of the body of a full-grown child, aged three months, in which the intestines, heart and liver cast definite shadows. The second detects a needle imbedded in the finger. Another shows multiple exostoses, and another the wrist and forearm from a case of syphilis, indicating the position of a gumma. The plates are rare reproductions, particularly the double one, the epiphyseal junctures of the bones being outlined with unusual plainness. A series of pictures such as are contained in this first number, and as we suppose will follow in subsequent numbers, will be of much use as forming a pictorial record of the advances made in this new branch of science.

Correspondence.

LONDON LETTER.

BY ST. CLAIR THOMSON, M.D. Lond., M.R.C.P. Lond., F.R.C.S. Eng.

Until quite a few years ago we had the four distinct classes of "physicians," "surgeons," "general practitioners," and "specialists," the latter forming a small group much looked down upon by the members of the first two classes, who lost no opportunity of offering every opposition to the development of any special line of practice. Yielding to the influence of the "physicians" and "surgeons," the large general hospitals abstained from inaugurating special departments for such subjects as the skin, the ear, the throat, the genito-urinary tract, etc., with the natural consequence that we were soon overdone with special hospitals, to which the practitioner resorted to perfect himself by post-graduate teaching in the special departments of study which were not exacted by the examiners (chosen from the physicians and surgeons!). Having obtained a reasonable amount of knowledge and skill in all the branches of practice, the general practitioner was not slow to find that he had no use for a consultation with any one, except with an expert in the matter in hand. Those who had most strongly opposed the movement soon found that the tide of specialism was too strong for them, and that if they were to float at all they must specialize themselves. In most instances this is exactly what they are now doing, taking charge of the special departments of the general hos-

pitals while waiting for seniority to float them into posts where they will "specialize" on some wider subject. All the time they continue to inveigh against "specialism;" and this attempt to hunt with the hounds and run with the hare ends with the usual results. Their special department is taught without interest, and therefore without satisfactory results to the students; and they win for themselves but a mediocre position. In private they will often confess that their public utterances against specialism are only of a Pharisaic character. One well known "physician" told me recently that, in spite of his written diatribes against it, if he had his time over again he would specialize, as he found that as a "physician" (like most of his group) he was being left stranded, and he regretted that he had not identified himself with either Gout or the Heart! This opposition by the bigwigs has had a result they little dreamt of: the general practitioner has become so thoroughly educated that he can do without them, and when he requires any help it is that of the specialist. Their own shortsighted, if not thoroughly selfish, policy has brought about a state of things that they could easily have avoided; we are now flooded with callow specialists, men who have had no experience of general practice, and who commence to specialize from the day they are graduated—if not before,—and with men who dabble in some department while waiting for a better post, and all the time the "physician" pure and simple is becoming extinct for want of work.

Death has removed two of our most distinguished men from this rapidly diminishing class. The obituary notices will have acquainted you with the death of Sir Russell Reynolds, who must have become personally known to many visitors last summer when he was President of the British Medical Association. It is needless therefore to recapitulate his career, but it may be well to recall the fact that certain elements of chance or good luck were not absent from it. When quite a young man he was offered on exceptionally good terms the remainder of the lease of the house in the West End inhabited by Dr. Marshall Hall—the discoverer of the reflex functions of the spinal cord, and also known to fame as the inventor of a method of resuscitation from drowning or asphyxia. Of course Dr. Russell Reynolds had the capacity of "grasping the skirts of happy chance," otherwise he would not have been successful in retaining so many of Marshall Hall's clients, and so establishing himself at a comparatively early life as a West End physician. To many it may seem strange that patients can thus be transferred from one physician to another, simply because they happen to successively inhabit the same house! There is no country in the world, so far as my experience of a good many goes, where this takes place to such an extent as in England; but then, as Carlyle remarked, there is no other land where the bell-wether instinct is so strongly marked. Russell Reynolds, although an "all-round physician," was himself to a great extent a specialist, and was the pioneer of the group which later on included Hughlings Jackson, Buzzard, Ferrier, Gowers, and Bastian.

So too with regard to Sir George Johnson, whom we have just lost: although he was one of the first in this country to use the laryngoscope, he was certainly regarded as an authority on diseases of the kidney. Curiously enough, he preferred to be appreciated for his work in reference to cholera, and when some one introduced him to a visitor from the States as "Kidney Johnson," he said, "If you must give me a nick-name, call me 'Cholera Johnson.'" He was a strong advocate of the evacuant treatment of cholera, and so active was he up to the age of seventy-eight that the week after his death the *Lancet* contained an article on this very subject, which he had revised the day before his fatal seizure. In it he says: "When in the epidemic of 1849 I saw that in case after case the arrest of an apparently mild attack of diarrhea by opium was directly followed by deadly collapse, I saw clearly enough that the repressive treatment and the theory which suggested it must be wrong, though I was at that time entirely ignorant of the true nature of choleraic collapse." He was equally opposed to the use of any astringents in the treatment of typhoid fever. His most original observations were doubtless those connected with the association of arterial tension and cardiac hypertrophy in granular disease of the kidney. He upheld his views with a warmth which may in some cases have appeared uncalled for by the comparative unimportance of the question in dispute; but I think no one could call his style pugnacious, while all who knew him are quite convinced that it was only his natural ardor and not any selfish object or personal bias which prompted him to deal what were taken for swashing blows. I had the privilege of being his pupil and his interne, and I know that he took a keen de-

light in controversy and enjoyed—if I may so term it—the sport of the thing. But there was none of the bitterness and jealousy which is only too often hidden behind the courteously worded criticisms of those who make a great parade of sparing the susceptibilities of their opponents. Indeed, a selfish nature would have been prompted to a very different line of action, as is shown by the following extract from one of Sir George's writings: "My friend Dr. Todd knew that I was preparing to publish particulars of the cases which I had treated by evacuants, together with my views as to the nature of choleraic collapse. He said to me, 'I believe that in the main you are right, but you will not convince the profession that you are, and in the attempt to do so you will suffer serious harm to your reputation and your prospects. I therefore advise you to publish no more on the subject.'" This well meant advice—and wise too, from a worldly point of view—was not acted on. His energy is shown by two facts: He was over sixty years of age when I acted as his interne, and during my period of office he became so convinced of the importance of the value of retinal symptoms in Bright's disease that he set himself to learn the use of the ophthalmoscope; and he mastered it, too, although he was even then suffering from the first symptoms of paralysis agitans. About the same time he had to deliver the annual Harveian Oration at the College of Physicians. In order to throw some new light on a well worn theme—the oration has to commemorate the life and work of Harvey—he undertook to show that the honor of the discovery of the circulation of the blood was due to Harvey and to him only. In order to refute the charge of plagiarism which had been brought against Harvey, this sexagenarian decided to learn Italian, and did so with such success that he was able to carry on a discussion with Professor Scalzi and vindicate Harvey's originality.

Let me remind our autumn visitors that the annual meeting of the British Medical Association will be held in Carlisle from the 28th to the 31st of July. A full programme is already published, and the beauty and romance of the Border counties will certainly give a special interest to all the excursions in the neighborhood. The meeting will be followed by the International Congress of Dermatology, which takes place in London from the 4th to the 8th of August under the presidency of Mr. Jonathan Hutchinson. I have good reasons to believe that it will prove a most successful and interesting meeting. The arrangements are well in advance, to avoid any of the inconveniences which have been only too prominent at some recent international affairs; members of the Congress will not be confined to the Congress hall from early morn to dewy eve; the exhibition of pathological specimens will be a prominent feature of the gathering, including all the most recent histological and bacteriological work on the skin; and the enormous field of clinical material in London will contribute a show of living specimens such as probably could not be brought together in any other city. The Secretary is Dr. J. J. Pringle, 23 Lower Seymour street, London, W.

I have been glancing through a new work on "The Treatment of Phthisis," by Dr. Ransome of Manchester, and see that it contains much that is of practical value to all who are called upon to treat this most distressing malady. Amongst other points I noted his remarks that "the digestive ferments in phthisis are often both wanting in quantity and deficient in activity, and there can be little doubt that in many of the cases of dyspepsia met with in this disease this is at least an important cause of trouble." It can only be met by artificially assisting digestion, by giving tonics, such as the vegetable bitters, calumba, cascarilla, gentian, quassia, etc., with nux vomica, and either acids or alkalies, for which he subjoins useful formulas:

℞ Acid. hydrochlor., dil., ♏ x;
Acid. hydrocyanic., dil., ♏ ij;
Tinct. aurantii, ʒ ss;
Succi taraxaci, ʒ j;
Spirit. chloroformi, ♏ v;
Inf. cascarillæ, ad ℥ j.
M. Fiat haustus. Sig.: Ter die sumend.

℞ Acid. hydrochlor., dil.,
Tinct. nucis vom., of each, ♏ x;
Spirit. chloroform., ♏ vij;
Tinct. gentian. co., ʒ ss;
Inf. gentian. co., ad ℥ j.
M. Fiat haustus. Sig.: Ter die sumend.

℞ Ammon. carb., gr. v;
Lac. bismuth., ʒ j;
Tinct. nucis vom., ♏ x;
Spirit. chloroform., ♏ v;
Inf. calumb., ad ℥ j.
M. Fiat haustus. Sig.: Ter die sumend.

In attacks of diarrhea and vomiting, which may arise in the course of phthisis, he has found one grain of calomel and one-half grain of opium to "act like a charm" in relieving both these symptoms. If they persist, a few doses of the following formula will often do good:

℞ Acid. sulph., dil.,
Nepenthe, of each, ♏ x;
Syrup. aurantii, ʒ j.
M. Ex aqua sumend.

He thinks it futile to attempt to disguise the flavor of creosote, and he prescribes it in the following emulsion:

℞ Creosoti, ♏ j–x;
Syrup. Tolu., ʒ j;
Mucilag. tragacanth., ʒ iss;
Aquæ vel aq. camph., ad ℥ ss.

In the night sweats of phthisis Dr. Ransome obtains the best results from doses of two to three grains of oxide of zinc, combined with Dover's powder, in the form of a pill, two or three times a day.

For hemoptysis he prescribes:

℞ Acid. sulph., dil., ʒ ij;
Ext. ergot., liq., ʒ iij;
Mag. sulph., ℥ j;
Syrup. zingib., ʒ iv;
Aq. menth. pip., ad ℥ vj.
M. Sig.: ℥ ss ex. aq. ʒ diis horis sum.

Some months ago *The Practitioner* published a formula of the "Chelsea Pensioner," and its composition is thus commented on in the *Chemist and Druggist:* "We find that there are about a dozen formulas in use for this celebrated electuary for rheumatism, and as we cannot of ourselves decide which of them is in general use at the present time, we should be glad of the assistance of our subscribers upon that point, and also in clearing up the origin of the preparation. As to the latter, Cooley states that a pensioner in the well known Chelsea home for old soldiers cured Lord Amherst of gout with it, and so it got its name. The earliest formula for it which we are able to trace is in Prof. W. T. Brande's 'Manual of Pharmacy' (1825), where the following passage occurs:

> The celebrated remedy for rheumatism called *Chelsea Pensioner* is an electuary composed of a drachm of powdered rhubarb, an ounce of cream of tartar, two ounces of flowers of sulphur, one nutmeg in powder, and a sufficient proportion of clarified honey; two large teaspoonfuls to be taken night and morning.

"This is probably the original formula, but nowadays the nutmeg is sometimes omitted, and various modifications have crept in. To what extent the composition has been altered will be seen from the subjoined table.

"Mustard, nitre, carbonate of magnesia, ginger and treacle are not in the supposed original formula, but the whole of the authorities who adhere to that recipe as regards ingredients depart from it in the matter of quantities. The London Hospital formula is obviously out of court; it is not Chelsea Pensioner. Squire, the *C. & D.* and the Edinburgh Royal Infirmary are in substantial agreement. We do not suppose there is any one now alive who was in the trade when the electuary was introduced, but probably many who read this have old shop recipe-books containing recipes for the preparation, and we shall be glad if they will communicate copies to us, with any notes as to the source of the recipes. Perhaps we may be able to bring back the preparation to something like uniformity. It seems to be too archaic to officialize, yet it is too good to spoil by utter confusion."

	Squire and *C. & D.*	Cooley.	Remington.	Whitla.	Martindale and Lond. Hosp. Phar.	Edin. Inf Phar.	Hager.	Private.
Pulv. guaiaci	ʒvj.	℥ss.	ʒj.	ʒj	ʒij.	ʒiv	℥ss.	℥ss.
Pulv. sinapis.....	ʒiss.	..	..	ʒij.	..	ʒj.	..	..
Sulphur. subl.....	ʒiss.	ʒviij.	ʒij	ʒij.	ʒiij.	ʒj.	ʒvj.	ʒiv.
Pulv. rhei.....	ʒiij.	ʒj.	ʒij.	℥ss.	..	ʒij.	ʒj.	ʒiv.
Pulv. potass. nit...	ʒiij.	..	..	℥ss.	..	ʒij.	..	..
Pulv. potass. bitart.	..	ʒij.	ʒj.	..	..	..	ʒij.	ʒij.
Pulv. myristicæ....	..	No. iv	ʒj.	..	..	..	℥ss.	No. ij.
Magnes. carb.....	..	..	..	..	ʒij.	..	..	..
Pulv. zingib	..	..	..	..	ʒj.	..	..	..
Mel..... ..	q. s.	℔ij.	ʒx.	q.s.	..	q.s.	ʒl.	ʒxxiv.
(vel) Theriaca.....	q. s.	..	..	q.s	ʒxij.	..	..	..

Sir Alfred Garrod, at a meeting of the Royal Medical and Chirurgical Society, stated that he thought he had been successful in establishing the following points in regard to the action of guaiacum: (1) Guaiacum is innocuous, and may be taken for an indefinite period of time, and looked upon as a condiment rather than as a drug, as harmless as ginger or any other condiment. (2) Guaiacum possesses a considerable power, but less than colchicum, in directly relieving patients suffering from gouty inflammation of any part; it may be given whenever there is but little fever. (3) Guaiacum, taken in the intervals of gouty attacks, has a considerable power of averting their occurrence; in fact, it is a very powerful prophylactic. (4) Guaiacum does not seem to lose its prophylactic power by long-continued use. (5) There are few persons who cannot readily continue the use of guaiacum; for such cases there are other drugs whose prophylactic action is in some respects similar; perhaps serpentary is one of the most powerful of these.

Dr. Murreli said he found tincture of guaiacum difficult to dispense, so he made a confection containing ten grains in a drachm of honey; or he gave the resin in half an ounce of malt extract, or of confection of

sulphur, which prevented the burning sensations sometimes experienced in the throat on taking this drug.

PARIS LETTER.

By Arthur R. Turner, M.D. (Paris).

The hospital instruction which the medical student receives in Paris may be described as follows: Unless he be an interne or externe of the hospitals, he is obliged to pass three years in following various hospital services. This hospital attendance begins with his second medical school year and ends with his fourth or last, not counting the first scientific year. During the first two years he follows general services of medicine and of surgery—that is to say, he cannot follow any of the special branches.

A certain number of physicians or surgeons of the Paris hospitals who have declared their willingness to receive such students at a remuneration, all told, of 3000 francs a year, have assigned to them individual groups of twenty, who are supposed to be all of the same year and standing. These students must present themselves in the morning at the hour of the physician's or surgeon's visit, follow him around the wards, and listen to his instruction. In some cases two or three beds are assigned to each of these students, under the supervision of the externes and internes, and the student is supposed to devote himself with special attention to the patients of such beds, dressing their wounds and taking observations, and to be able to answer any question concerning them which may be put by the visiting physician or surgeon.

Every three months the student is placed in a different service, and in no case is he allowed to choose the service to which he would belong, such classification being carried out by the officials of the Assistance Publique.

During the third year of hospital attendance the medical student must pass three months in a midwifery service. He must likewise pass another three months in a service of one of the following special branches: diseases of the skin and syphilis, mental diseases, children's diseases, diseases of the eye, or genito-urinary diseases.

In addition to the three years of medical attendance which have already been described, the student is obliged, later on, after passing the first part of his third examination, which includes obstetrics, to pass a month in one of the obstetrical clinics of the Faculty, of which there are two. During this month he must be present at the morning visit, and thrice a week remain on guard from 9 o'clock in the morning to 10 o'clock in the evening, in order to attend cases of childbirth.

The situation of the student who has become externe is somewhat different. He is now no longer under the rules which govern the ordinary medical student. He is appointed for three years, and changes his service but once a year. He decides his own service by seniority and by his rank in the competitive examination. Usually, however, if he be acquainted with any special physician or surgeon under whom he would desire to serve, he requests the latter to ask for him, and, though one of his colleagues would in reality have the right to insist on taking his place, it rarely happens so.

The externe usually arranges to have a certain period of his third year at his disposal, during which he may attend an obstetrical service, though he may, should he so desire, do this latter attendance at night, being on duty from 10 o'clock in the evening to 8 o'clock in the morning.

Only those students who have been internes in an obstetrical service are permitted to absent themselves from attendance at the obstetrical clinic after the third examination.

Dr. Boisson, a French surgeon in the army, stationed at Lyons, has had occasion to observe a number of patients returning from Tonquin and Madagascar. He believes he has discovered a new symptom which will render more easy the diagnosis of larval forms of malaria, and febrile affections of a non-malarial character occurring in individuals who have been exposed to malaria. This sign consists in a peculiar light slate-colored tint of the finger-nails, beginning previous to the chill, and attaining its maximum during the hot period of the attack.

Dr. Boisson looks upon this peculiar alteration of the finger-nail as due to the changes in a certain number of red blood-corpuscles which are destined to disappear after the attack. In one case it was noted in a patient while no attack of fever was present, and would seem to have been the symptom of an aborted attack. Once its absence in a case of severe fever in a malarial patient led Dr. Boisson to make the diagnosis of a non-malarial affection; this was confirmed by the development of an ordinary fibrinous pneumonia with all its objective symptoms.

The slate color of the finger-nails in malarial attacks is, according to Boisson, quite unlike the tint observed in the cyanosis of asphyxia.

One of the most prominent of French physicians, Prof. Germain Sée, recently died. He was born in 1818 at Ribeauville, Haute-Alsace, of Israelitish race, and was received Docteur-en-Médecine at Paris in 1846. Throughout his life, which has been very active, he devoted himself with special attention to the therapeutic side of medicine. The two drugs which in France will always remain associated with his name are antipyrin and sodium salicylate. One characteristic Professor Sée possessed, from his entry into medical life, and for which he was even attacked at one time, namely, his knowledge of and attention to foreign medical literature. Professor Sée was one of the physicians called in consultation on the Emperor Napoleon III. just previous to the Franco-German war, and he made the diagnosis of the calculus from which the Emperor was suffering, and for which he was operated upon later on in England.

The use of cocaine in hypodermic injections as a local anesthetic was discussed some time ago at the Academy of Medicine. Dr. Réclus, who has always been a strong partisan of this drug, and, one may even say, has, more than any one else, contributed to its general use in France, laid down the rules which he is wont to follow in its administration. It may be interesting to note that with it he has performed amputations of the breast, gastrostomies, and other operations of as serious a nature. Réclus declared that he never used a stronger solution than one per cent.; that the entire dose of cocaine injected was never more than fifteen or twenty centigrammes; and that the patient, reclining when the injection was made, was not allowed to rise for at least an hour after.

In the out-patient service at the Bichat Hospital, under the charge of Dr. Péraire, assistant of the celebrated surgeon Terrier, each cubic centimeter of the two-per-cent. cocaine injection used contains one drop of the official one-per-cent. solution of nitroglycerin.

Some time ago Dr. Thierry, chef de clinique of Dr. Tillaux, recommended the use of picric acid in burns; recently the use of potassium permanganate has been recommended. The part burned is to be dipped into the solution, and allowed to remain several minutes. Of course the usual dark hue is caused, but at the same time the burning sensation is done away with, and recovery is said to be rapid.

LOCAL USE OF DOBELL'S SOLUTION IN HERPES ZOSTER.

To the Editor of the THERAPEUTIC GAZETTE.

SIR:—In the treatment of herpes zoster the use of the various dusting powders, such as zinc oxide, boric acid, starch, and others, which are in such general use and highly spoken of by all authorities, give more or less relief; cotton-batting coverings and protectives such as collodion, gutta-percha, and the like, have also their able advocates; but when these fail, there is another resource. It is Dobell's Solution, having the following formula:

℞ Acid. carbolici, ʒ iss:
Sodii biboracis,
Sodii bicarb., of each, ʒ ij;
Glycerini, ℥ ij;
Aquæ, q. s. ad ℥ ij. M.

A man twenty-eight years of age, of a decidedly nervous temperament, came to me with the eruption well out; he had none of the neuralgic pains, but complained of the most intense irritation, as tingling, burning, and itching—could scarcely keep from scratching or rubbing the parts continually. At first the dusting powders were used, but he got no relief—could not sleep, and almost every movement would set up a fresh spasm of tingling. I then gave him the Dobell's Solution, with directions to saturate absorbent cotton with it and bind on over the vesicles. This was done, and the patient afterwards stated that the relief was noted almost immediately, and was so marked that he was reluctant to remove his clothing, for fear of setting up the itching again. From the first application improvement continued until the vesicles dried up and all the symptoms abated.

I may also add that at the same time I administered zinc phosphide internally, which is spoken of by Rohé, also by Bulkley and A. Thompson, these last two claiming to have mitigated the course of the disease by the same if administered early. I am not prepared to say that it was so in this case.

It is true that this is only a single instance, but the relief was so marked when the patient was very nervous and the irritation so extreme, that I am confident others will find this solution of value in similar cases.

W. W. FULLERTON, M.D.

BOSTON, MASS.